Draft Initial Study/Mitigated Negative Declaration

Baldy Mesa Solar Project

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Abbreviations

µg/m^3	Micrograms per cubic meter
AB	Assembly Bill
AC	alternating current
ADT	average daily trips
af	acre-foot
afy	Acre-feet per year
amsl	above mean sea level
APE	Area of Potential Effect
APLIC	Avian Power Line Interaction Committee
Applicant	Sustainable Power Group
ATCM	Airborne Toxic Control Measure
ATP	Archaeological Treatment Plan
Authority	Adelanto Public Utilities Authority
BESS	battery electrical storage system
BMPs	best management practices
BMS	battery management system
BP	years before the present
BRC	BCR Consulting
BRTR	Biological Resources Technical Report
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CH_4	methane
City	City of Adelanto
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO2	carbon dioxide

CO_2e	carbon dioxide equivalents
County	San Bernardino County
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Ranks
CRMMP	Cultural Resources Mitigation Monitoring Plan
CUP	conditional use permit
CUPA	Certified Unified Program Agency
DA	Development Agreement
dB	Decibel
dBA	A-Weighted Decibel
dBC	C-Weighted Decibel
DC	direct current
DL-2.5, 1 DU/2.5 AC	Desert Living
DL-5, DU/5 AC	Desert Living Zoning District
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
ESA	Endangered Species Act
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
gen-tie	generation-tie
GHG	greenhouse gas
GPA	General Plan Amendment
GWP	global warming potential
HFC	hydrofluorocarbon
hp	horsepower
HM	Habitat Management
HVAC	Heating, Ventilation and Air Conditioning
Hz	Hertz
ISO	International Organization for Standardization
JD	Jurisdictional Delineation
JDSA	Jurisdictional Delineation Survey Area
kV	kilovolt
Kw	kilowatts
Ldn	Day-Night Sound Level
LDP	Location Development Plan
Leq	Equivalent Sound Level
LM	Light Manufacturing
Lmax	Maximum Sound Level
Lmin	Minimum Sound Level
LOS	level of service

LRA	Local Responsibility Area
Lxx	Percentile Exceeded Sound Level
MBTA	Migratory Bird Treaty Act
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MESA	Mapping Episodic Stream Activity
met	meteorological
MI	Manufacturing/Industrial
MLD	Most Likely Descendent
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
Morongo	Morongo Band of Mission Indians
MPH	Miles Per Hour
MRZ	Mineral Resources Zone
MU	Mixed Use
MV	Minor Variance
MW	megawatt
MW_{AC}	Megawatt – alternating current
MWh	megawatt hours
NAAQS	National Ambient Air Quality Standards
NERC	North American Energy Reliability Corporation
NESC	National Electric Safety Code
NFPA	National Fire Protection Association
N_2O	nitrous oxide
NO	nitric oxide
NO_X	nitrogen oxides
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
O&M	Operations and Maintenance
OEHHA	California Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark
OS	Open Space
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCS	Power Conditioning System
PFC	perfluorinated chemicals
PLP	polarized light pollution
PM	Particulate Matter

PM_{10}	Particulate Matter less than 10 microns in diameter
$PM_{2.5}$	Particulate Matter less than 2.5 microns in diameter
ppm	parts per million
PPV	Peak Particle Velocity
PRC	Public Resources Code
Proposed Project	Baldy Mesa Solar Project
PV	photovoltaic
RACT	Reasonably Available Control Technology
RCNM	Roadway Construction Noise Model
ROGs	reactive organic gases
ROW	right-of-way
R-S1	Single Family Residential
R-S5	Single Family Residential
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SBCFD	San Bernardino County Fire Department
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SF_6	sulfur hexafluoride
SGC	Strategic Growth Council
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SMBMI	San Manuel Band of Mission Indians
SO_2	Sulfur Dioxide
SWCA	SWCA Environmental Consultants
SWPPP	Stormwater Pollution Prevention Plan
TACs	Toxic Air Contaminants
TCR	Traditional Cultural Resources
TTM	Tentative Track Map
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
VHFHSZ	Very High Fire Hazard Severity Zone
USFWS	United States Fish and Wildlife Service
VOCs	Volatile Organic Carbons
WEAP	Worker's Environmental Awareness Program Training
WECC	Western Electricity Coordinating Council
WOTUS	Water of the United States

WMPHCP	West Mojave Plan Habitat Conservation Plan
ZC	Zone Change
ZMA	Zoning Map Amendment

1.0 INTRODUCTION

1.1 PROJECT TITLE

Baldy Mesa Solar Project (proposed Project)

1.2 LEAD AGENCY NAME AND ADDRESS

City of Adelanto
Planning Department
James Hirsch
(760) 246-2300 ext. 11190

1.3 CONTACT PERSON AND PHONE NUMBER

sPower
Terrance Unrein, Senior Permitting Manager
(970) 302-9457

1.4 PROJECT LOCATION

The site is located in the City of Adelanto, San Bernardino County, at Latitude 34°36'33" N and Longitude 117°27'15" W. The proposed Project site spans approximately 1,197 acres, located in Sections 11, 12, and 13 of Township 6N, Range 6W and Sections 7 and 18 of Township 6N, Range 5W. It is bordered by Colusa Road to the north, Raccoon Avenue to the east, El Mirage Road to the south, and a portion of Vinton Road to the west. The proposed generation-tie line route is discussed in Section 2.3, Generation Tie Line and Communication Line. The Fremont Wash runs through portions of the site, specifically in the northeast corner (Figure 1).

1.5 PROJECT SPONSOR'S NAME AND ADDRESS

Baldy Mesa Solar, LLC (Applicant)
5000 East Spring Street, Suite 130
Long Beach, CA 90815

1.6 GENERAL PLAN DESIGNATION

Relationship to Project Site	Existing Land Description	Land Use Zoning District
Project Site (Figure 2a)	Vacant undeveloped land, unpermitted dumping and off-highway vehicles	• OS (Open Space) • DL 5 (Desert Living 5) • DL 2.5 (Desert Living 2.5)

Relationship to Project Site	Existing Land Description	Land Use Zoning District
Generation Tie Lines (Figure 2b)	Vacant undeveloped lands, franchise right-of-way	• DL 5 (Desert Living 5) • DL2.5 (Desert Living 2.5) • R-S1 (Single Family Residential) • R-S5 (Single Family Residential) • LM (Light Manufacturing) • MU (Mixed Use) • R-M12 (Medium Density Residential)

1.7 ZONING

Refer to the table above and Figures 3a and 3b for a depiction of the proposed Project's zoning.

1.8 DESCRIPTION OF PROJECT

The Applicant proposes to construct and operate a utility-scale solar generating facility (proposed Project) proposed to be developed on approximately 1,197 acres within the City of Adelanto (City) in San Bernardino County (County). Solar electricity generated by the proposed Project would be delivered by an approximately 5-mile generation-tie (gen-tie) and communication line that would extend to the Southern California Edison (SCE) Roadway substation. The proposed Project site would require a Location and Development Plan, (LDP), Solar Energy Overlay Zone and Conditional Use Permit (CUP) pursuant to a Zoning Code Amendment, (ZCA) and General Plan Amendment/ Zone Change (GPA/ZC) from the City for facility construction, operation, and decommissioning. Section 2.0, Project Description, provides a more detailed description of the project.

1.9 SURROUNDING LAND USES AND SETTING

The proposed Project site spans approximately 1,197 acres, located in Sections 11, 12, and 13 of Township 6N, Range 6W and Sections 7 and 18 of Township 6N, Range 5W. It is bordered by Colusa Road to the north, Raccoon Avenue to the east, El Mirage Road to the south, and a portion of Vinton Road to the west. The Fremont Wash runs through portions of the site, specifically in the northeast corner. Additionally, the City's WWTP Pump Station is located along Muskrat Avenue and De Soto Avenue. PERC Water Corporation will be granted continual access to the pump station via access through the proposed Project.

The main proposed Project area includes the solar arrays and infrastructure that would be enclosed in fencing. Gen-tie options are shown in Figures 2a and 2b.

The majority of the area immediately surrounding the proposed Project consists of open space, with the Shadow Mountains to the north and United States Route 395 (US-395) to the east. The Fremont Wash traverses parts of the northern and western portions of the proposed Project. A residential community is located approximately 400 feet south of the southernmost parcels of the proposed Project. The gen-tie

routes are located along existing roads and traverse relatively flat open space, often adjacent to the residential communities that are interspersed throughout the area.

1.10 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

1.10.1 Intended Uses of the Initial Study and Permit Requirements

This Initial Study is an informational document intended to inform the lead agency, other responsible or interested agencies, and the general public of potential environmental effects of the proposed Project. The environmental review process has been established to enable public agencies to evaluate potential environmental consequences and to examine and implement methods of eliminating or reducing any potentially significant adverse impacts. This document is intended to aid the City and the Applicant in determining the appropriate California Environmental Quality Act (CEQA) document needed to support agency discretionary approvals, permits, and consultations. These permits, approvals, and consultations are described in Table 1.

Table 1: Agency Permits and Environmental Review Requirements

Agency	Permits and Other Approvals
City of Adelanto	• Conditional Use Permit • Building Permits • Right of Way Encroachment Permit • Landscaping Permit
Lahontan Regional Water Quality Control Board	• National Pollutant Discharge Elimination System Permit and Report of Waste Discharge • Clean Water Act Section 401 Water Quality Certification
Mohave Desert Air Quality Management District	• Dust Control Plan
California Department of Fish and Wildlife	• Incidental Take Permit • Streambed Alteration Agreement
U.S. Army Corps of Engineers	• Clean Water Act Section 404 Nationwide Permit

2.0 PROJECT DESCRIPTION

The Applicant proposes to construct and operate a 200-megawatt (MW_{AC}) maximum capacity utility-scale solar generating and energy storage facility proposed on approximately 1,197 acres located within the City of Adelanto (Figure 1). Renewable electricity generated by the proposed Project would be delivered by an approximately 5-mile gen-tie and communication line that would extend to the SCE Roadway substation located at the intersection of Delicious Street and Lawson Avenue. The proposed Project would operate year-round and would produce electric power during daylight hours. The Applicant proposes to begin site preparation and construction of the facility in 2020 or 2021. The proposed Project may be constructed in phases and would operate for a period of 35 years. Figures 2a and 2b (Site Plan) provide the location of the proposed Project site, including potential routes for the gen-tie and communication line. The proposed Project would require a solar overlay and CUP and from the City for facility construction, operation, and decommissioning.

2.1 SOLAR PROJECT AND SITE DESCRIPTION

The proposed Project involves the construction of a ground-mounted, utility-scale solar energy and energy storage facility located within the City. The proposed Project would employ solar photovoltaic (PV) modules that convert sunlight directly into electrical energy. The proposed Project would have a generating capacity of up to 200 MW_{AC} located on approximately 1,197 acres.

The proposed Project would consist of the following components:

- PV modules;
- Energy storage solutions;
- Module mounting system;
- Balance of system and electrical boxes;
- Electrical inverters and transformers;
- Electrical alternating current (AC) collection system, including switch gear;
- Data monitoring equipment;
- Transmission and gen-tie lines; and
- Access roads and security fencing.

The proposed Project site is contained primarily within the Desert Living zones (DL-5 and DL-2.5) with a portion located within the Open Space (OS) land use designation. While power generating facilities (>500 kilowatts [kW]) are allowed in the OS zones with a CUP, they are currently not allowed in the Desert Living areas. Therefore the proposed Project site would require a Location and Development Plan, (LDP), Solar Energy Overlay Zone and Conditional Use Permit (CUP) pursuant to a Zoning Code Amendment, (ZCA) and General Plan Amendment/ Zone Change (GPA/ZC)..

2.1.1 Current Site Conditions

The majority of the proposed Project site is relatively flat and slopes gradually from southeast to



northwest from approximately 2,820 to 2,750 feet above mean sea level (amsl) towards the Fremont Wash. The Fremont Wash bisects the northwestern portion of the proposed Project area from southwest to northeast. Land use within and surrounding the proposed Project area is limited to sparse rural residential development and open space with a few unpaved roads across the site.

2.1.2 Surrounding Land Uses

The main proposed Project area, which includes the solar arrays and infrastructure that would be enclosed in fencing, encompasses approximately 1,197 acres. Gen-tie locations are shown in Figures 2a and 2b and discussed further in Section 2.3, Generation Tie Line and Communication Line.

The majority of the area immediately surrounding the proposed Project consists of open space, with the Shadow Mountains to the north and US-395 to the east. The Fremont Wash traverses parts of the northern and western portions of the proposed Project. A residential community is located approximately 400 feet south of the southernmost parcels of the proposed Project. The gen-tie routes are located along existing roads and traverse relatively flat open space, and in some areas, adjacent to residential communities that are interspersed throughout the area.

Probable Future Projects List

The State CEQA Guidelines require that a CEQA document discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. As set forth in CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

In accordance with CEQA Guidelines Section 15130(a)(3), a project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. In addition, the Lead Agency is required to identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

State CEQA Guidelines Section 15130(b) further provides that the discussion of cumulative impacts reflects the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. Rather, the discussion is to be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute.

State CEQA Guidelines Section 15130(b) states that complying with one of the following two protocols is necessary to provide an adequate discussion of significant cumulative impacts:

1. A list of past, present, and probable future projects producing related or cumulative impacts including, if necessary, those projects outside the control of the agency; or



2. A summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the Lead Agency.

Cumulative study areas are defined based on an analysis of the geographical scope relevant to each particular environmental issue. Therefore, the cumulative study area for each individual environmental impact issue may vary. For example, a cumulative land use impact generally may only affect the compatibility of uses within the vicinity of a project site, while a cumulative air quality impact may affect the entire air basin.

In order to determine which projects would be considered as potential related projects, , a desktop analysis was conducted to review the *City of Adelanto Planning Department Development Activity Report 2018 to Current 2020*. There was a total of 182 entries:

- 10 that were either incomplete or denied and were therefore discounted for the potential to be considered cumulative.
- 39 that were blank for status, 22 with submittal dates from 2018 and were therefore assumed to be stale (2 years without status) and were discounted for the potential to be considered cumulative, the remaining 17 with submittal dates of 2019.
    - 7 of the remaining 17 were related to medical marijuana activities and were therefore discounted for the potential to be considered cumulative.
    - 9 of the remaining 17 included limited information available (address only) and were therefore discounted for the potential to be considered cumulative.
    - 1 of the remaining 17 included basic project details, which were evaluated for the potential to be considered cumulative.
- 52 that were approved and related to medical marijuana activities for existing approved facilities (manufacturing, distribution transportation, testing, and/or nursery), and were therefore discounted for the potential to be considered cumulative.
- 76 that were approved with limited information available (address only) and were therefore discounted for the potential to be considered cumulative.
- 5 that were approved with basic project details, which were evaluated for the potential to be considered cumulative.



The six projects identified through this review were screened for their potential evaluation in the proposed Project's cumulative impact analysis and are summarized below in Table 2. All six projects are located approximately 1.70- to 4.5-miles away from the proposed Project footprint.

Table 2: Related Projects

Project	Developer Information	Location and Description	APN/Size	Date Submitted to City	Status	Distance from Proposed Project
MCUP 19-01 MLDP 19-04	Verizon Wireless Allen Alejandre 27130 Paseo Espada, Suite A-1426 San Juan Capistrano, CA. 92675	SCE lattice tower at the intersection of Victor Street and Bellflower Street	3135-101-01	3/19/2019	Approved 5/25/2019	~3.5 miles
CUP 19-05 LDP 19-04	Brahmbhatt Architects Sumit Brahmbhatt 441 E. Whitter Blvd. Suite C La Habra, Ca. 90631	11305 Palmdale Road new 5,000 sf gas station and 4,300 car wash on 351,074 sf located in the Commercial (C) zone.	3103-481-05		Approved 9/18/2019	~4.5 miles
MLDP 19-09	Tandis Homes Saito Design Group, Inc. Mr. Al Saito 20803 Valley Blvd, Ste. # 105 Walnut, CA 91789	Proposal to construct 22 single family homes with a 48-unit subdivision TTM 17600), located at the southeast corner of Raccoon Road and Kemper Avenue (Lots 4 through 23, 36 and 48)	0459-072-04-23, 36, 48	6/11/2019	Approved 7/30/2019	~ 1.7 miles
CUP 19-08	Walt Mitchell Adelanto Towne Center 1156 N. Mountain Avenue Upland, CA. 91786	Southwest corner of US Highway 395 and Mojave Drive proposal for off-site sales of beer and wine (type 20 ABC license) for 7- Eleven of approx 40 square feet of floor sales. Building is located in phase 1 of MLDP 19-01 located on 9.4 acres in the phase will consist of commercial (C) zone	3135-201-08 thru 16 3135-201-18 thru 21	8/7/2019	Approved 9/21/2019	~3.10 miles
CUP 19-10	GPA Inc. Gerald Minch P.O. Box 925 Atwood, Ca. 92811	Proposal to construct nine new industrial buildings on 17 acres. The project will be constructed in two phases. The first phase will consist of a 96,981 sf building and the second phase will consist of a 111,350 sf building	3128-331-01, 02, 04 & 07	9/12/2019		~2.00 miles



Project Description

Project	Developer Information	Location and Description	APN/Size	Date Submitted to City	Status	Distance from Proposed Project
MCUP 20-01	Ikanik Farms, Inc. Mr. Mike Storino 5370 Queensland Circle Corona, CA 92879	Add a 6,100 square foot (SF) addition and a 12,100 square foot (SF) addition to the existing 27,000 sf Building 2	3129-261-61, 62 & 64 9367 Cassia Road & 16444 Beaver Road	1/10/2020	Approved 1/22/2020	~ 2.00 miles

Notes:
https://www.ci.adelanto.ca.us/DocumentCenter/View/1227/City-of-Adelanto-Activity-Report-22020
https://www.ci.adelanto.ca.us/DocumentCenter/View/1072/Adelanto-Towne-Center
CUP = conditional use permit
MCUP = Minor conditional use permit
MLDP =

The cumulative analysis for each environmental issue, including a discussion regarding the identification of relevant related projects, is provided in Section 3.0, Environmental Impact Analysis, of this Draft IS/MND.

2.2 SOLAR FACILITY COMPONENTS

2.2.1 Solar PV Generation Facility

A series of PV module arrays would be mounted on racking systems supported by a pile-driven foundation. The module mounting system or racking system would be a tracker PV array configuration oriented to maximize the amount of incident solar radiation absorbed over the course of a year. For the tracking configuration, the modules would rotate from east to west over the course of the day.

Electrical connections from a series of PV arrays would be channeled to combiner boxes located throughout the solar field. Electrical current would be collected and combined prior to feeding the inverters, which convert the electricity from DC to AC and step-up voltage to 34.5-kv. Inverters would be consolidated in areas to minimize cable routing, trenching, and electrical losses. The AC output from the inverters would be routed through an AC collection system and consolidated with system switchgear. The final output from the proposed Project will connect to a transformer that steps up the voltage to match the interconnection voltage of 115-kv. The energy would ultimately be delivered to the SCE transmission network at the Roadway Substation.

2.2.2 Photovoltaic Modules

The number of PV modules will depend on the final technology selected, design optimization, and detailed design. In addition, market conditions, economics, and environmental factors are also considered during the design process. Modules will be nonreflective and highly absorptive.

The following PV module technologies (or comparable) may be used as part of the proposed Project:

- PV crystalline-silicon technology
- Thin film cadmium telluride (CdTe) technology

2.2.3 Installation, Array Assembly, and Racking

The module mounting system provides the structure that supports the PV module arrays. The foundations are typically steel I-beams or piles driven into the soil using pneumatic or similar techniques for pile driving. Once the piles are installed, the module racking system can be installed to support the PV modules. For a tracking configuration, motors are installed to drive the tracking mechanism. The module mounting system would be oriented in rows within a PV design block reflecting a standard and uniform appearance across the facility. The PV modules would have a typical height of 6 feet and a maximum height of approximately 12 feet, depending on the angle of the tracking system as it changes over the course of each day, and may be elevated in some isolated areas to avoid flood zones.

2.2.4 Direct Current Collection, Inverters, Alternating Current Collection, and Medium Voltage Transformers

All solar modules will be electrically connected in strings. The power cables from multiple module strings are consolidated via combiner boxes throughout the solar field and delivered to the inverters via underground cables. The inverters convert the direct current (DC) power generated by modules to AC power.

The inverters are connected directly to medium-voltage transformers that step up the output voltage of the inverter to 34.5 kilovolts (kV). The output of the transformers will be combined in series via underground collector cables and junction boxes. The junction boxes then consolidate the cables into larger feeder circuits that deliver the entire output of the system to the project substation.

The underground electrical cables will be installed using standard trenching techniques, with directional boring techniques available to avoid sensitive resources, as necessary. The inverters will be fully enclosed and located adjacent to medium-voltage transformers, both of which will be installed on concrete foundations or elevated support structures. Switchgear cabinetry will be also be installed for circuit control.

2.2.5 Substation

The substation is where all of the underground 34.5 kV feeder circuits are collected and combined, the voltage is then stepped up to 115 kV via a transformer. The substation will consist of the following equipment:

- Switchgear
- Transformer
- Circuit breaker
- Controls and protection
- Metering
- Footings

- Reinforced concrete foundations
- Oil containment area for the transformer

The transformer will be pad-mounted and enclosed together with switchgear and a junction box. The primary switchgear includes the main circuit breaker and utility metering equipment; it will be enclosed separately, pad-mounted together with the generator step-up transformer. The substation area will be graded and excavated to accommodate the equipment. The substation will be located in the southeast region of the project site. The power will be delivered to the nearby SCE Roadway Substation located at the intersection of Delicious Street and Lawson Avenue via an approximate 5-mile 115 kV gen-tie.

Modifications to the SCE Roadway Station would include a circuit breaker, switches and relays.

2.2.6 Data Collection System

The proposed Project would be designed with a comprehensive Supervisory Control and Data Acquisition (SCADA) system for remote monitoring of facility operations and remote control of critical components. Within the proposed Project site, the fiber-optic (or other) cable necessary for the monitoring system would be installed throughout the site, leading to a centrally located (or a series of) SCADA facilities.

The data collection system would also include a meteorological (met) data collection system. The met data collection system would have the following weather sensors: a pyranometer for measuring solar irradiance, a thermometer to measure air temperature, a barometric pressure sensor to measure atmospheric pressure, and two wind sensors to measure speed and direction.

2.2.7 Energy Storage System

The proposed Project includes a battery electrical storage system (BESS) that would store up to +/- 100 MW_{AC} of electricity for dispatch into the local SCE grid via the same point of interconnection as the solar array. At complete buildout, The Applicant anticipates that the BESS would consist of between 15-30 battery storage containers, which would each house battery modules mounted in racks (akin to server racks) and associated electrical equipment. The Applicant anticipates that the battery storage containers would be built using standard International Organization for Standardization (ISO) shipping containers, and would each measure approximately 53 feet in length, 8 feet in width, and 9 feet in height; though other smaller form-factor structures exist that may be used.

Each storage container will be either completely outdoor accessible (with no internal access) or would have an access drive aisle. If in a building, the facility would be designed and constructed specific for the project at hand. The building would be built to all applicable building and fire codes and would house all batteries, electrical equipment, robust HVAC systems to maintain specific internal temperatures, and fire suppression systems. The entire BESS area would be fenced for security and to restrict access.

Construction

The battery storage containers would be constructed on concrete pads, and each container would be bolted. The Power Conditioning System (PCS) and the medium voltage control system (i.e., inverters and



transformers) would be constructed on level concrete pads between the battery storage containers. Minor rough grading may be needed for the preparation of the proposed PCS and medium voltage control system pads if the pads cannot be constructed using the existing slope. Any cut-and-fill as a result of any rough grading would be contained within the proposed Project site. No import or export of soil from the proposed Project site is expected. The BESS would be constructed over a 12-month period.

Battery Modules, Battery Technology, and Fire Protection

Each battery storage container would be located within a metal frame storage container with insulation, air conditioning, and fire suppression, with separate enclosures for the electronic controls, inverters, and rectifiers. The primary storage components would consist of self-contained electrochemical battery systems using conventional storage technologies with proven safety and performance records using the same chemistries and vendors as the batteries in a typical cell phone. The battery storage facility is designed such that the periodic maintenance and replacement of underperforming battery components (each a single “module”) can be easily performed on an as-needed basis, whereby each individual module can be replaced without needing to replace the entire system. The BESS modules and associated infrastructure (e.g., inverters, switches, etc.) would be serviced regularly via planned maintenance and on an as-needed basis by certified technicians.

The battery will be a high-density battery that is rechargeable. These batteries will allow a safe and effective installation into a shipping container and are well-suited to perform beyond the planned daily operations for this facility (i.e., approximately one complete cycle each day).

The proposed Project would use a built-in fire protection system and would include a fire extinguishing system. The system would be designed in accordance with National Fire Protection Association (NFPA) safety standards.

DC electricity would be collected from the batteries and conveyed to the inverters. A series of battery modules forms a battery “rack”, and each rack is connected to a battery management system (BMS) to control that specific rack and control the voltage, current, and other operations. A number of series circuits are combined together to form an individual parallel circuit; parallel circuits are grouped together in individual racks which are sized appropriately, and each rack contains a rack-level BMS. The number of racks will vary according to final proposed Project specifications and can be sized to accommodate electrical design. Racks combine multiple parallel circuits through a fused bus system to collect the energy into one set of DC collection cables. The fuses within the racks create another line of protection from overcurrent. These cables run from the racks to the inverters, where they would terminate in the DC side of the inverter.

In the event the Applicant decides to pursue building storage, an industrial size building(s) approximately 10,000 square feet would be required. The building will contain battery modules, associated electrical equipment, and ancillary systems (including ventilation and cooling technology). The building would be constructed within the Project site, likely adjacent to the Project substation near the Koala Road access point. If a building were deemed necessary, the building would be constructed in compliance with California building and fire codes. The necessity for a building will be determined during final engineering.

If a building were necessary, an on-site fire suppression system would be installed in compliance with all applicable rules and regulations.

Supervisory Control and Data Acquisition (SCADA)

The BESS would have a SCADA system that would allow for remote monitoring and control of inverters and other proposed Project components. The SCADA system would be able to monitor project output and availability and to run diagnostics on the equipment. The proposed Project would also have a cloud-based (with local human-machine interface) overall plant control system (site controller) that would provide monitoring of the BESS as well as control of the balance of facility systems. The microprocessor and cloud-based site-controller would provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the project's SCADA system. Critically, this system monitors all system facilities and would remotely and instantaneously shut down all system facilities in the event of a contingency (e.g., if system temperatures exceed pre-determined thresholds).

2.2.8 Security Fencing

To ensure the safety of the public and the facility, the proposed Project site would be fenced, and signs would be posted. Fencing would be placed around the entire proposed Project footprint, including the substation. The proposed Project would be fenced with an approximately 6-foot-high security fence, topped with barbed wire around high-voltage electrical equipment per applicable electrical safety code standards. Security measures would be installed as necessary to mitigate and deter unauthorized access and vandalism. Access to the proposed Project site would be controlled via gates installed at the site entrances. Manual swing gates would be constructed at the entry and egress points and in strategic locations, as required for convenience in accessing and maintaining each portion of the facility. The proposed Project would comply with North American Energy Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) requirements for regulatory control and security systems. The security fence would include wildlife friendly design features to allow for wildlife to pass through the site in accordance with the Project's Incidental Take Permit being sought from CDFW.

2.2.9 Signage

Signs warning of high-voltage danger would be posted on the perimeter fences and at all entry points. These signs would also include a no trespassing statement. Signs posted at the switching station(s) would conform to all codes and state requirements for safety. Signage would identify the project operator and owner and provide emergency contact information, including a telephone number. All signage would conform to City signage requirements, as detailed in Adelanto Municipal Code Chapter 17.70 (Signs).

2.2.10 Water Use

The proposed Project is anticipated to require approximately 323 acre-feet (af) of water during construction for soil conditioning, dust control, single panel wash, and other uses. Water, including for construction, would be obtained from existing municipal connections or via the City's recycled water



program. During O&M, the proposed Project is anticipated to utilize up to 9.68 acre feet per year (afy) for period panel cleaning.

2.2.11 Solid and Nonhazardous Waste

During operation, the proposed Project would produce a small amount of solid waste associated with maintenance activities. This waste may include broken or rusted metal, defective or malfunctioning panel modules, electrical hardware, empty containers, cardboard, wood pallets, copper wire, scrap, steel, common trash, and wood wire spools and other miscellaneous solid wastes, including the typical refuse generated by maintenance workers. These materials would be collected onsite in trash bins and separated for recycling where possible, then disposed of at a licensed offsite landfill or recycling facility. All broken or defective solar modules would be returned to the manufacturer for recycling.

2.2.12 Outdoor Lighting

Project lighting would be installed for ongoing maintenance and security purposes. Low-level motion-detection lighting would be installed at entry and egress gates around the perimeter of the facility. All project lighting would be shielded and directed downward to avoid light trespass and minimize the potential for glare or spillover onto adjacent properties. Motion-detecting lighting would be used from dusk to dawn for security purposes during operations. Project lighting would conform to National Electric Safety Code (NESC) requirements and all applicable City lighting requirements, as detailed in Adelanto Municipal Code Section 17.90.040 (Lighting). NESC recommends illuminating the switching station to a minimum of 22 lux or 2 foot-candles.

2.2.13 Fire Control

Perimeter roads and evenly distributed interior access roads would conform with San Bernardino County Fire Department (SBCFD) standards for solar facilities. The PV modules and ancillary equipment would represent a negligible fire risk; however, the applicant would have a fire prevention plan approved per applicable City and SBCFD regulations (such as Fire Safety Standard B-2). Fire department access devices and emergency contact placards would be located at all gated entrances. In addition, the proposed Project would meet the minimum standards set forth by Public Resource Code (PRC) 4290, Title 14, for fire protection and emergency water standards. Specifically, the proposed Project would include five 10,000-gallon water storage tanks. The tanks would be approximately 15 feet high with a diameter of 12 feet. Water storage tank connections shall meet SBCFD standards.

2.2.14 Hazardous Waste

The Applicant does not expect to generate hazardous waste during construction of the proposed Project. However, proposed Project construction would involve the use of some hazardous materials, such as fuels and lubricants used for construction vehicles and equipment. Such materials may be stored in temporary aboveground storage tanks or sheds located on the proposed Project site. The fuels stored on the proposed Project site would be contained within a locked container within a fenced and secure temporary staging area. Trucks and construction vehicles would be serviced at offsite facilities. The use,



storage, transport, and disposal of hazardous materials used in construction of the solar facility would be carried out in accordance with all federal, state, and County regulations. No extremely hazardous substances (i.e., those governed pursuant to Title 40, Part 335 of the Code of Federal Regulations [CFR]) are anticipated to be produced, used, stored, transported, or disposed of as a result of proposed Project construction. The proposed Project is located within the City; therefore, the Hazardous Materials Division of SBCFD has been designated by the State Secretary for Environmental Protection as the Certified Unified Program Agency (CUPA). The CUPA is responsible for managing hazardous materials and hazardous waste programs within the County. The CUPA also administers hazardous waste related permits and performs facility inspections and enforcement activities throughout the County.

Material Safety Data Sheets for all applicable materials present on the project site would be readily available to onsite personnel as required by the CUPA. Operation and maintenance of the proposed Project is not expected to require large quantities of hazardous materials or to generate hazardous waste. However, there is the potential that hazardous materials (such as gasoline or diesel fuel) would remain onsite in quantities equal to or greater than 55 gallons of a liquid, 500 pounds of a solid or 200 cubic feet of a gas. Therefore, the Applicant would file and maintain a Hazardous Materials Business Plan with the CUPA. The transformers that would be located at the project substation would use biodegradable oil-based esters or similar substances, which according to the U.S. Occupational Safety and Health Administration (OSHA) are not considered a hazardous material. Disposal of this oil would occur in accordance with all applicable regulations. The solar PV panels and inverters would produce no waste during project operation. Minor amounts of waste would be produced from the operation of the battery storage facility when cells reach the end of their lifespan and are returned to the manufacturer for recycling. Storage and usage of pesticides and/or herbicides for operational purposes would be governed by the Applicant's standard pest and weed management plan.

Activities associated with operation of the proposed Project are expected to handle and store only nominal quantities of hazardous and potentially hazardous materials, such as small amounts of fuels and lubricants. However, as there is the potential to store quantities of hazardous or potentially hazardous materials in excess of the above thresholds, the Applicant would file and maintain a Hazardous Materials Business Plan with the County. In the event of an accidental release, the Business Plan would detail the location and quantities of hazardous materials stored onsite. That information would be made available to emergency responders such as firefighters and medical personnel, who would, in part, use such information to contain the hazardous materials and avoid the creation of a significant hazard.

2.3 GENERATION TIE LINE AND COMMUNICATION LINE

An overhead 115 kV gen-tie line would connect the proposed Project to the existing SCE Roadway substation located at the intersection of Delicious Street and Lawson Avenue.

The applicant is currently evaluating multiple routes to connect to the SCE Roadway Substation as identified below and displayed in Figures 2a and 2b.



- Route 1: begins on Koala Road 0.33 mile south of Colorado Street extending 1.38 miles south, 1.84 miles east on Chamberlaine Way, 0.91 mile south on Verbena Road, and 0.97 mile east on Lawson Avenue where it connects to the Roadway Substation.
- Route 2: begins on Koala Road 0.33 mile south of Colorado Street extending 0.14 mile south, 1.8 miles east on El Mirage Road, 2.14 miles south on Verbena Road, and 0.97 mile east on Lawson Avenue where it connects to the Roadway Substation.
- Route 3a: begins on Koala Road approximately 0.33 mile south of Colorado Avenue. It extends south for approximately 1.61 miles, interconnects at the corner of Koala Road and Bartlett Street where it extends for 0.61 mile east, then 0.61 mile south along Raccoon Avenue before connecting to Air Expressway Boulevard where it extends for 1.775 miles, north along Delicious Street for approximately 0.31 mile, 0.05 mile on Lawson Avenue where it connects to the Roadway Substation.
- Route 3b: begins on Koala road approximately 0.33 mile south of Colorado Avenue. It extends south for approximately 2.03 miles, then crosses over the southwest corner of the parcel located at the northeast corner of Koala Road and Air Expressway within an existing utility right-of-way before connecting to Air Expressway Boulevard where it extends for approximately 2.11 miles, north along Delicious Street for approximately 0.31 mile, 0.05 mile on Lawson avenue where it connects to the Roadway substation.
- Route 4: begins on Koala Road 0.33 mile south of Colorado Street extending 0.15 mile south, 0.63 mile east on El Mirage Road, 2.46 mile south on Raccoon Avenue, 2.15 miles east on Air Expressway Boulevard, north along Delicious Street for approximately 0.31 mile, 0.05 mile on Lawson Avenue where it connects to the Roadway Substation.
- Route 5: begins on Koala Road 0.33 mile south of Colorado Street extending 0.15 mile south, 0.63 mile east on El Mirage Road, 1.53 mile south on Raccoon Avenue, 1.76 miles east on Bartlett Avenue, south along Delicious Street for approximately 0.25 mile, 0.05 mile on Lawson Avenue where it connects to the Roadway Substation.
- Route 6: begins 0.23 mile west of Raccoon Ave and El Sereno Ave, 0.12 mile north of El Mirage Road, extending 1.64 miles south on Raccoon Avenue, 1.76 miles east on Bartlett Avenue, south along Delicious Street for approximately 0.25 mile, 0.05 mile on Lawson Avenue where it connects to the Roadway Substation.

2.4 SOLAR PROJECT CONSTRUCTION

Project construction would consist of two major phases:

1. Site preparation;
2. PV system installation, testing, and startup

2.4.1 Site Preparation

Construction of the PV facility would begin with the initial clearing of the site and grading of the staging areas and access roads (if required). The existing access to the proposed Project site would be improved to appropriate construction standards. The staging areas would include temporary construction offices, a first aid station, other temporary facilities, worker parking, truck loading and unloading facilities, and an area for assembly. Road corridors would be surveyed, cleared, and graded to bring equipment, materials,



and workers to the areas under construction. Buried electrical lines, PV array locations, and the locations of other facilities may be flagged and staked to guide construction activities. The proposed Project site would be fenced with a security fence that would have a secured controlled main access gate at the entrance.

2.4.2 PV System Installation, Testing, and Startup

PV system installation may include earthwork, grading, fill compaction, and erosion control to accommodate the placement of PV arrays, foundations or footings, access roads, and drainage features. PV modules require a moderately flat surface for installation. Construction of the PV arrays would include the installation of foundations, tracker racking system, PV modules, inverters, transformers, and buried electrical cables. System installation would begin with installing the steel piers support structures. The PV module foundation installation methods are expected to include vibratory driven I-beams piles. This activity would be followed by panel installation and electrical work. Buried cable installation would be conducted via sections of shallow trench.

Inverter pads are expected be mounted on skids with an I-beam pile foundation. Concrete may be required for the footings, foundations, or pads for the transformers but would be in limited quantity and delivered from a nearby concrete facility.

2.4.3 Construction Workers, Hours, and Equipment

Construction of the proposed Project is expected to be completed in approximately 12 to 18 months. The onsite workforce would consist of laborers, skilled trades, supervisory, support, and construction management personnel.

Construction activities would be conducted consistent with City regulations regarding hours of construction. As described in Code Section 17.90.020(d), construction shall be limited to between 7:00 am to dusk on weekdays. The proposed Project would generate approximately 500 local jobs during the construction phase, with a maximum of 200 construction workers per day, and provide approximately one to six full-time positions during operations and maintenance (O&M) activities.

Construction Traffic

All materials for project construction would be delivered by truck. All truck traffic would occur on City-designated truck routes. Most deliveries would be made from the south heading north on US-395, a divided four-lane, fully surfaced regional transportation route, to Rancho Road, then westward to Koala Road, traveling north to El Mirage Road then onto the proposed Project site. Traffic from construction activities would be temporary and would occur along area roadways as workers and materials are transported to and from the proposed Project site. Proposed Project components (e.g., PV solar panels, support structures, and electrical interconnection equipment) with the exception of pre-assembled components would be brought to the proposed Project site and assembled. Approximately 5,600 truck trips are assumed for proposed Project construction-related deliveries over the 18-month construction period; with approximately 4,500 of the trips taking place in the first six months, followed by 10 trips/day for the remaining 3 months, assuming a 5-day work week at approximately 37 deliveries per day



(e.g., tracking system, various supplies, and electrical system components). Following construction activities, construction area roadways would be restored to respective pre-construction conditions. During construction, all employees would park within the proposed Project site boundary. Detailed information on the construction equipment and timeline of construction activities is provided below.

Construction Equipment

The equipment that would be used during construction activities and the duration that the equipment would be used (gross numbers) is as follows:

Site Preparation

- One roller (95 horsepower [hp]) operating at a 0.56 load factor for 8 hours per day.
- One rough terrain forklift (93 hp) operating at a 0.60 load factor for 8 hours per day.
- Two rubber-tired dozers (357 hp) operating at a 0.59 load factor for 6 hours per day.
- Two tractors/loaders/backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day.
- Four water trucks (189 hp) operating at a 0.5 load factor for 8 hours per day.
- Two small 10,000-watt (15 hp) generators operating at 0.5 percent load for 2 hours per day.

Trenching

- Two tractors/loaders/backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day.
- Two trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day.
- Four water trucks (189 hp) operating at a 0.5 load factor for 8 hours per day.
- Two small 10,000-watt (15 hp) generators operating at 0.5 percent load for 2 hours per day.

PV Installation

- Eight pile drivers (47 hp) operating at a 0.4 load factor for 6 hours per day.
- One crane (399 hp) operating at a 0.43 load factor for 7 hours per day.
- Two forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day.
- One tractor/loader/backhoe (108 hp) operating at a 0.55 load factor for 7 hours per day.
- Four water trucks (189 hp) operating at a 0.5 load factor for 8 hours per day.
- Two small 10,000-watt (15 hp) generators operating at 0.5 percent load for 2 hours per day.

Gen-tie and Landscaping

- One tractor/loader/backhoe (108 hp) operating at a 0.55 load factor for 7 hours per day.
- One rubber-tired dozer (357 hp) operating at a 0.59 load factor for 6 hours per day.
- Two trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day.
- Two water trucks (189 hp) operating at a 0.5 load factor for 8 hours per day.

2.5 SOLAR PROJECT OPERATION AND MAINTENANCE

Upon commissioning, the proposed Project would be fully operational. During operation, the proposed Project would be operated and monitored remotely, with as-needed site visits by Applicant personnel for

security, maintenance, and system issues. While one to three full-time personnel would be working remotely, monitoring potential O&M issues, there would be no full-time personnel onsite during operation. As the proposed Project's PV arrays produce electricity passively with minimal moving parts, maintenance requirements would be limited. Any required planned maintenance would be scheduled to avoid peak load periods, while unplanned maintenance would be addressed on an as-needed basis, depending upon the event. An inventory of spare components would be readily available from a remote warehouse facility.

2.5.1 Operation

During operation of the proposed Project, the Applicant would do the following:

- Remotely monitor the proposed Project for generation capacity, key performance metrics, and projected outputs.
- Respond to automated alarms based on monitored data, including tolerances for system output and key performance metrics.
- Communicate with customers, transmission system operators, City and regulatory agency staff, and other entities involved in operation of the Project as needed.
- Periodically visit the site, estimated to be one vehicle visiting three times a month.

2.5.2 Maintenance

Maintenance performed on the proposed Project would primarily consist of equipment inspection, cleaning, and replacement. Typically, maintenance would be performed during the day; however, maintenance activities would occur at night when possible, during hours where the proposed Project would not be generating renewable energy. Maintenance staff would be based at an offsite location and would access the site as needed.

2.6 SOLAR PROJECT DECOMMISSIONING

The Applicant would decommission and remove the system and its components at the end of the life of the facility, anticipated to be at least 35 years. The proposed Project site could then be reverted to its original condition or converted to other uses in accordance with the applicable land use regulations in effect at that time. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and would be conducted in accordance with the applicable federal, state, and City regulations at the time of decommissioning. Materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. Decommissioning of the Project, should it occur, is conservatively assumed to have impacts similar to those of construction. It is likely that equipment requirements would be of similar scale, and that consumables such as water or fuel would be equal to or less than those used during construction. However, it is likely that actual impacts associated with decommissioning would be less than those of construction due factors such as the reduction in ground disturbance and increased in efficiencies in construction equipment 35 years in the future.

3.0 ENVIRONMENTAL SETTING AND IMPACT ANALYSIS

The proposed Project is herein evaluated for its potential to affect the 20 environmental resource areas presented in the model Environmental Checklist Form found in Appendix G of the CEQA Guidelines Section 15063(f) (listed below). The environmental factors checked below would be potentially affected by the proposed Project. As indicated in the analyses on the following pages, no substantial adverse changes in the environment will occur because appropriate mitigation measures will be successfully implemented by the Applicant to reduce effects to a less than significant level.

☒	Aesthetics	☐	Land Use and Planning
☐	Agriculture and Forest Services	☐	Mineral Resources
☒	Air Quality	☐	Noise
☒	Biological Resources	☐	Population and Housing
☒	Cultural Resources	☐	Public Services
☐	Energy	☐	Recreation
☒	Geology and Soils	☒	Transportation
☐	Greenhouse Gas Emissions	☒	Tribal Cultural Resources
☐	Hazards and Hazardous Materials	☐	Utilities and Service Systems
☒	Hydrology and Water Quality	☐	Wildfire

Impacts to the environment from construction, operation, and decommissioning of the proposed Project are herein described and analyzed to determine the level of significance under CEQA using criteria that have been established by regulations, accepted standards, or other definable criteria. Each environmental resource area is reviewed by analyzing a series of questions (i.e., Initial Study Checklist) pertaining to potential project impacts. Based on the substantiated analysis in each answer, one of four conclusions have been made regarding an impact's significance determination under CEQA (see below).

No Impact. A finding of no impact is made when it is clear from the analysis that the proposed Project would not affect the environment.

Less Than Significant Impact. A finding of a less than significant impact is made when it is clear from the analysis that the proposed Project would cause no substantial adverse change in the environment, and no mitigation is required.

Less Than Significant Impact with Mitigation Incorporated. A finding of a less than significant impact with mitigation incorporated is made when it is clear from the analysis that the proposed Project would cause no substantial adverse change in the environment when mitigation measures are successfully implemented by the Applicant. In this case, Baldy Mesa Solar, LLC is the Applicant and would be responsible for implementing measures identified in a Mitigation Monitoring and Reporting Program.

Potentially Significant Impact. A finding of a potentially significant impact is made when the analysis concludes that the proposed Project could have a substantially adverse change in the environment for one or more of the environmental resources assessed in the checklist that the implementation of mitigation measures would not sufficiently reduce, avoid, or alleviate. In this case, preparation of an Environmental Impact Report (EIR) would be required.

3.1 AESTHETICS

3.1.1 Setting

The aesthetic value of an area is a measure of its visual character and quality combined with the viewer response to the area (FHWA 1988). Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area (BLM 1980). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below. Identifying a project area's visual resources and conditions involves three steps:

- Objective identification of the visual features (visual resources) of the landscape.
- Assessment of the character and quality of those resources relative to overall regional visual character.
- Determination of the importance to people, or viewers' sensitivity, of views of visual resources in the landscape.

Visual Character

Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally or even hourly as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features (USFS 1995; FHWA 1988). The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality

Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration (FHWA), employing the concepts of vividness, intactness, and unity (FHWA 1988; Jones et. al. 1975), described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.

- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes and in natural settings.

- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Visual Exposure and Sensitivity

The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and type and expectations of individuals and viewer groups.

The importance of a view is related in part to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements would depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (FHWA 1988). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middleground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic regions or types of terrain, the standard foreground zone is 0.25-0.5 mile from the viewer, the middleground zone from the foreground zone to 3-5 miles from the viewer, and the background zone from the middleground to infinity (Litton 1968).

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure; people engaging in recreational activities such as hiking, biking, or camping; and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work (USFS 1995; FHWA 1988; U.S. Soil Conservation Service 1978). Commuters and nonrecreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based in a regional frame of reference (U.S. Soil Conservation Service 1978). The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.



Visual Character of the Project Vicinity

The proposed Project site is located within the northwestern portion of the City, immediately west of US-395. The vicinity is comprised primarily of rural, residential, and open space land uses and is characterized by gradual change in elevation and terrain. Neither the City of Adelanto General Plan nor the municipal code designate any local scenic roadways or scenic viewsheds within the City. Additionally, the County General Plan Open Space Element Policy OS 5.3 does not designate any scenic roadways or routes in the vicinity of the proposed Project.

In general, views of the proposed Project will be available but limited due to distance and intervening, rolling terrain. Views from residential subdivisions to the south represent the greatest concentration of City residents. The visual character of the existing landscape is of undeveloped rolling foothill landforms with low desert landcover in the form of grasses and shrubs. Notable manmade alterations include large-scale linear transmission towers and poles; in addition to other utility-scale solar projects and regional support infrastructures. These features are most prevalent in conditions where their profile is silhouetted against the skyline, creating a notable contrast.

A small number of scattered rural residences, existing energy infrastructure, and a few businesses are within the proposed Project vicinity, within 500 feet of the proposed Project right-of-way (ROW). The largest trees in the vicinity of the proposed Project are associated with residential landscaping approximately 500 feet south of the proposed Project, while the rest of the landscape is largely desertscape. The native vegetation in the area provides for a varying contrast with the desert landscapes' monotone colors in the spring months when seasonal rains support vegetation growth. High-voltage utility lines are a prominent vertical visual resource in the proposed Project vicinity, with steel lattice support structures and steel and wood monopoles supporting the Roadway Substation. In addition, miles of wooden utility poles and associated lines, paralleling local roadways, and a lattice steel transmission line traverse the proposed Project's vicinity.

Wooden utility pole lines are in keeping with the rural visual character, while the lattice steel transmission lines detract from the visual character of the proposed Project site. Views in the vicinity are composed of gently rolling terrain, desertscape, rural residences and businesses, roadways, and manmade features (concrete lined waterways, wooden utility poles, and transmission lines) back-dropped by the Shadow Mountains and flat valley floor, which extends from the foot of the range and into the distant background. Additionally, the large portions of the desertscape are covered in illegal trash dumping grounds, and unpermitted OHV uses, detracting from the overall visual character of the site. The overall visual character contains moderately low scenic value due to the elevation quality of the rolling terrain contrasting against the adjacent flat valley floor, with relatively few manmade features that detract from the overall quality of views within the landscape.

3.1.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion of Impacts

a) Have a substantial adverse effect on a scenic vista?

No Impact.

There are no designated scenic vistas near the proposed Project site or within the City, nor are there any designated scenic vistas from which the proposed Project would be visible. As there are no known or designated scenic vistas which the Project could be visible from, no impact would occur.

b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact.

There are no rock outcroppings, historic buildings, or other designated scenic resources within or near the Project site. Neither the City of Adelanto General Plan nor the municipal code designate any local scenic roadways or scenic viewsheds within the City. There are no state-designated scenic highways in the City; therefore, the proposed Project would not damage scenic resources including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, or in the surrounding vicinity. The nearest designated scenic highway to the proposed Project is a portion of State Route 18 located approximately 47 miles southeast of the proposed Project. Since the project site would not be visible from any Designated or Eligible State Scenic Highways, no impacts associated with scenic resources in the vicinity of a state scenic highway would occur.

As a result, there are no impacts to scenic resources during the construction phase, operations phase, and the decommissioning phase.

c) *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Less Than Significant with Mitigation Incorporated.

The majority of the area immediately surrounding the proposed Project consists of non-urbanized open space, with the Shadow Mountains to the north and US-395 to the east. The Fremont Wash traverses parts of the northern and western portions of the proposed Project site. A residential community is located approximately 400 feet south of the southernmost parcels of the proposed Project. The gen-tie routes are located along existing roads and traverse relatively flat open space, often adjacent to the residential communities that are interspersed throughout the area. The PV modules would have a typical height of approximately 6 feet and a maximum height of approximately 12 feet from the ground, depending on the angle of the tracking system as it changes over the course of each day, and may be taller in some isolated areas to elevate panels above established flood zones, but no taller than approximately 15 feet in some areas. The energy storage system would be built using standard ISO shipping containers and would each measure approximately 53 feet in length, 8 feet in width, and 9 feet in height; though other smaller form-factor structures exist that may be used, in addition to a possible central building. Depending on the final design of the 115 kV transmission line, typical pole heights could range from 50-75 feet in height. The proposed emergency water tanks could range from 12-14 feet in height.

The proposed Project would introduce a source of infrastructure and manmade features (solar panels, fencing, electrical equipment, etc.), altering the existing visual character of the landscape from a rural nature to a more developed setting, which would be seen by viewers of high, moderate, and low sensitivity. However, existing manmade alterations in the area include large-scale linear transmission towers and poles in addition to other utility-scale solar projects and regional support infrastructures, and although views of the proposed Project will be available, they will be limited due to distance and intervening, rolling terrain. In addition, the only residences in the general vicinity of the Project are located approximately 400 feet south of El Mirage road, the southern border of the Project. Other transient sources of views would include traffic along El Mirage Road. There are no known viewers with high visual sensitivity. Given the short nature of the panels which would not be visible from the existing residences, and the large number of existing transmission lines, the only Project features considered to have a potential effect on visual character or quality of a site are the fencing and the water storage tanks.

A project is considered to “substantially degrade” the visual character or quality of a site if it would have a strongly negative influence on the public’s experience and appreciation of the visual environment. As such, visual changes are always considered in the context of a site’s or locale’s visual sensitivity. Visual changes caused by the project are evaluated in terms of their visual contrast with the area’s predominant



landscape elements and features, their dominance in views relative to other existing features, and the degree to which they could block or obscure views of aesthetically pleasing landscape elements.

During the construction phase of the proposed Project, construction vehicles, materials, trailers, and other temporary construction equipment would be located on the proposed Project site. These temporary construction-related visual elements would be removed at the completion of construction. These temporary impacts related to construction would be similar in character to the other construction projects in the region, would be temporary and of short duration, and would be necessary to meet the Project objectives of Project construction. As such, the short-term presence of construction equipment on site during construction activities is not considered to be a potentially significant impact

The proposed Project would modify the existing character of the proposed Project site by introducing solar arrays and associated facilities and infrastructure that would be visible within the foreground and middleground of residences along the surrounding roadways, to workers in nearby areas, and to roadway travelers using surrounding roadways. The proposed Project site is located in close proximity to the SCE Roadway Substation, transmission lines, and other associated infrastructure.

The changes to the existing visual character resulting from project O&M would maintain the vividness, intactness, and unity, resulting in an overall visual quality that is still moderately low. As described in Section 2.0, Project Description, project fencing would be approximately 6 feet in height, installed around the perimeter of the proposed Project site. Perimeter fencing surrounding the proposed Project site would be raised at regular intervals above ground level to allow for the passage of wildlife. The proposed Project would also include slatted fencing along portions of the perimeter of the proposed Project site to reduce visual impacts to adjacent property owners and roadway travelers as part of mitigation measure AES-1 by reducing the visual character of the fencing, allowing viewers to see further distances through the fence, and blending into the existing surroundings more than a traditional fence. Implementation of AES-2 (Non-Reflective Tanks) would help the required water tanks blend into the existing surroundings more than a traditional fence and prevent the glint and glare which traditional tanks can emit.

The changes to the existing visual character resulting from proposed Project O&M would reduce the vividness, intactness, and unity and result in an overall visual quality that is moderately low. Although the PV systems would be located in a predominantly rural area, there is still the potential to impact residential views in close proximity to the proposed Project site. As such, the proposed Project could result in significant impacts to the existing visual character. The implementation of mitigation measures AES-1 and AES-2 would reduce the impacts to nearby viewers to a less than significant level during the construction phase, operations phase, and the decommissioning phase by using fencing which would increase views through the site and blend into the existing surroundings more than a traditional fence or traditional storage tanks. .

Mitigation Measures

AES-1: **Slatted Fencing:** Due to the presence of single-family residences located approximately 400 feet south of the southernmost parcels of the proposed Project, the Project shall install slatted fencing along El Mirage Road for panels located within 200 feet of El Mirage Road.

AES-2: **Non-Reflective Tanks:** The applicant shall select and install water tanks constructed of a nonreflective material on the proposed Project site. The material shall be approved by the City prior to the issuance of construction permits.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact.

Construction- and decommissioning-related activities at the proposed Project would occur during daylight hours and, as a result, no lighting would be necessary for these activities. These activities will lead to a temporary increase in truck and equipment traffic that may increase glare conditions due to light hitting the surface of equipment or trucks. However, this potential increase in glare would be short-term, intermittent, and temporary as any sources of glare will not be stationary for an extended period of time and would be eliminated once construction and decommissioning-related activities are completed. Therefore, construction- and decommissioning of the proposed Project would result not in substantial light or glare that would affect daytime or nighttime views.

The proposed Project site is currently undeveloped and is devoid of lighting sources. Very minor sources of light are present from adjacent residences and residential streetlights. The proposed Project would include inward facing, low-level security lighting at entry, along the perimeter and egress gates. Proposed Project lighting would be directed downward onto the proposed Project site and would be shielded to illuminate only intended areas. These lighting measures would prevent light trespass falling outside the boundaries of the proposed Project site.

A common misconception about PV panels is that they inherently cause or create “too much” glare. While in certain situations the glass surfaces of solar PV systems can produce glint (a momentary flash of bright light) and glare (a reflection of bright light for a longer duration), light absorption, rather than reflection, is central to the function of a solar PV panel—to absorb solar radiation and convert it to electricity. PV panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV panels reflect as little as 2 percent of incoming sunlight, about the same as water and less than soil or wood shingles (SEIA/Sandia 2013). In general, the Applicant intends to avoid the use of materials which could cause glint or glare, such as fiberglass, aluminum, or vinyl/plastic siding, or brightly painted steel roofs, to the extent practicable.

Recreationists and roadway travelers would be transitory through the proposed Project area, and the effects of glare on these viewers would, at most, last moments as they pass by the proposed Project. Existing residences located approximately 400 feet south of the southernmost parcels of the proposed

Project site will not be affected by any potential glare from the proposed Project. The panels follow the sun from east to west and will not reflect any irradiance in their direction. Therefore, glare impacts on recreationists, roadway travelers, and existing residences would be less than significant during the construction phase, operations phase, and the decommissioning phase. No mitigation measures are required.

Cumulative Impacts

Six local projects have been determined to be a related project as defined by CEQA Guidelines 15130(b). All of which are located approximately 1.70- to 4.5-miles of the proposed Project. As stated above, current lighting conditions on and in the vicinity of the project site are minimal. The project level analysis concluded that impacts to aesthetics from the proposed Project were less than significant after implementation of mitigation. Each of the current and foreseeable projects have been or is being designed in accordance with CEQA and the City General Plan and zoning code. The geographic scope of the potential cumulative impacts with respect to aesthetics is usually limited to areas within the same viewshed as the Project. Therefore, visual resource impacts of the related projects are site-specific and would not result in a cumulative impact with other projects as they are not in the same viewshed. The proposed Project's contribution to cumulative aesthetics impacts would be less than cumulatively considerable.

3.2 AGRICULTURE AND FORESTRY RESOURCES

3.2.1 Setting

The proposed Project is located exclusively within the boundaries of the City, in northern San Bernardino County. According to the Adelanto 2035 Sustainable Plan (Adelanto 2014), the City does not contain zoning or land uses designated specifically for agricultural or forestry uses. The proposed Project site consists of areas designated for Desert Living, Mixed Use, Open Space, Single Family Residential, and Light Manufacturing Cannabis Only.

3.2.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion of Impacts

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact.

According to the California Department of Conservation Farmland Mapping and Monitoring Program (CFMMP 2016), the proposed Project site does not contain lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland); therefore, there would be no impact during the construction phase, operations phase, and the decommissioning phase.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact.

According to the City of Adelanto General Plan Land Use and Zoning Map and the California Department of Conservation (DOC 2015), the proposed Project site does not contain any lands zoned for agricultural use or any lands under a Williamson Act contract; therefore, there would be no impact during the construction phase, operations phase, and the decommissioning phase.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?

No Impact.

The proposed Project site is not zoned as forest land, timberland, or timberland production. Additionally, it does not meet the criteria of a timberland zone as defined by PRC Section 4526 or Government Code section 51104(g). Therefore, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Protection. There would be no impact during the construction phase, operations phase, and the decommissioning phase.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact.

There are no forests located within the City; the proposed Project site consists of former agricultural lands or undeveloped desert. Therefore, the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. There would be no impact during the construction phase, operations phase, and the decommissioning phase.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact.

As discussed above, the proposed Project site does not contain any Farmland or forest lands which would be converted to either non-agricultural or non-forest use. Additionally, due to the location and nature of the proposed Project as utility-scale infrastructure, no other changes in the surrounding environment would result in the conversion of adjacent farmlands or forest lands to either non-agricultural or non-forest use. There would be no impact during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The project level analysis concluded that there would be no impact to agricultural and forestry resources because of the lack of agricultural and forest lands on or adjacent to the proposed Project site. Thus, the proposed Project plus related cumulative projects would result in no significant cumulative impacts to agricultural and forestry resources. As the cumulative projects are approximately 1.7 miles or more away from the proposed Project, there would be no contribution to cumulative agricultural and forestry resources impacts.



3.3 AIR QUALITY

3.3.1 Setting

Regional Topography, Meteorology, and Climate

The proposed Project site is located within the boundaries of in the Mojave Desert Air Basin (MDAB). The mountain ranges within the air basin bordering the proposed Project site influence wind direction and speed and atmospheric inversion layers in the Victor Valley. These mountain ranges channel winds through the valley, affecting both the climate and dispersion of air pollutants.

Temperature inversions, when the upper air is warmer than the air beneath it, occur frequently in the valley. The inversions trap pollutant emissions near the Earth's surface and prevent upward dispersal to the atmosphere. Inversions occur frequently throughout the year in the Victor Valley, though they are more prevalent and of a greater magnitude in late summer and fall.

Air Pollutants of Concern

The federal National Air Quality Standards (NAAQS) and the state California Air Quality Standards (CAAQS) are established for six criteria pollutants: ozone (O_3), Carbon Monoxide (CO), Lead (Pb), Nitrogen Oxides (NOx), Sulfur Dioxide (SO_2), and Particulate Matter (PM). The following section discusses the criteria pollutants, as well as additional air pollutants of concern, Toxic Air Contaminates (TACs) and Diesel Particulate Matter (DPM).

Ozone

Ozone is a respiratory irritant that can cause severe ear, nose, and throat irritation and increase susceptibility to respiratory infections. It is also an oxidant that can cause extensive damage to plants through leaf discoloration and cell damage. It can cause substantial damage to other materials as well, such as synthetic rubber and textiles.

O_3 is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. O_3 precursors, reactive organic gases (ROGs), and NO_X react in the atmosphere in the presence of sunlight to form O_3. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, O_3 is primarily a summer air pollution problem. ROG and NO_X are mainly emitted by mobile sources and stationary combustion equipment.

Hydrocarbons are organic gases that are made up of hydrogen and carbon atoms. There are several subsets of organic gases, including ROGs and volatile organic compounds (VOCs). ROGs are defined by state rules and regulations; VOCs are defined by federal rules and regulations. For the purposes of this assessment, hydrocarbons are classified and referred to as ROGs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels or as a product of chemical processes. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-



fueled power plants. Other common sources are petroleum fuels, solvents, dry-cleaning solutions, and paint (through evaporation).

The health effects of hydrocarbons result from the formation of O_3. High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen though displacement. Carcinogenic forms of hydrocarbons are considered TACs. There are no separate health standards for ROGs although some are also toxic; for example, benzene is both a ROG and a carcinogen.

Nitrogen Oxides

Nitrogen oxides are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3 and react in the atmosphere to form acid rain. Nitrogen dioxide (NO_2), often used interchangeably with NO_X, is a brownish, highly reactive gas that is present in all urban environments. The major human sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with O_3, the NO_2 concentration in a particular geographical area may not be representative of local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects primarily depends on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, such as coughing, difficulty breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe symptomatic NO_2 intoxication after acute exposure has been linked to prolonged respiratory impairment, with such symptoms as emphysema, bronchitis, and aggravating existing heart disease.

Carbon Monoxide

Carbon monoxide, a colorless and odorless gas, interferes with the transfer of oxygen to the brain. It can cause dizziness and fatigue and can impair central nervous system functions. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. In urban areas, motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains emit CO. Automobile exhaust is responsible for most of the CO in urban areas. CO is a nonreactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. These locally concentrated peaks in CO are referred to



as CO hotspots. Because motor vehicles are the dominant source of CO emissions, CO hotspots are normally located near roads and freeways with high traffic volume.

Other Criteria Pollutants

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. PM also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Particulate matter less than 10 microns in diameter, about 1/7th the thickness of a human hair, is referred to as PM_{10}. Particulate matter that is 2.5 microns or less in diameter, roughly 1/28th the diameter of a human hair, is referred to as $PM_{2.5}$. Major sources of PM_{10} include motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush and waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM_{10} and $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X, and VOCs.

PM_{10} and $PM_{2.5}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{10} and $PM_{2.5}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, SO_4, and nitrates, can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body; they can also transport absorbed gases such as chlorides or ammonium into the lungs and cause injury. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle and contribute to haze and reduce regional visibility.

Toxic Air Contaminants

Although NAAQS and CAAQS exist for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the California Air Resources Board (CARB) has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks that they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources.



Sulfur Oxides

Sulfur oxides are any of several compounds of sulfur and oxygen, of which the most relevant to air quality is SO_2. SO_2 is a respiratory irritant that causes the bronchioles to constrict with inhalation at 5 parts per million or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis. SO_2 is produced by coal and oil combustion and such stationary sources as steel mills, refineries, and pulp and paper mills.

Lead

Lead is a natural metal constituent of air, water, and the biosphere; it is neither created nor destroyed in the environment, so it persists forever. Pb was used several decades ago to increase the octane rating in automotive fuel; therefore, gasoline-powered automobile engines were a major source of airborne Pb. Since the use of leaded fuel has been phased out, the ambient concentrations of Pb have dropped dramatically. Short-term exposure to high levels of lead can cause vomiting, diarrhea, convulsions, coma, or even death. However, even small amounts of Pb can be harmful, especially to infants, young children, and pregnant women. Pb exposure is most serious for young children because they absorb Pb more easily than adults and are more susceptible to its harmful effects. Even low-level exposure may harm the intellectual development, behavior, size, and hearing of infants. During pregnancy, especially in the last trimester, Pb can affect the fetus. Female workers exposed to high levels of Pb have more miscarriages and stillbirths.

Symptoms of long-term exposure to lower Pb levels may be less noticeable but are still serious. Anemia is common, and damage to the nervous system may cause impaired mental function. Other symptoms are appetite loss, abdominal pain, constipation, fatigue, sleeplessness, irritability, and headache. Continued excessive exposure, as in an industrial setting, can affect the kidneys.

Diesel Particulate Matter

In 1998, the CARB identified DPM as a TAC (CARB 1998). On a statewide basis, the average potential cancer risk associated with DPM is more than 500 potential cases per million people. OEHHA estimated that the potential cancer risk from a 70-year exposure to DPM at a concentration of 1 microgram per cubic meter ($\mu g/m^3$) ranges from 130 to 2,400 excess cancer cases per million people. A scientific review panel concluded that an appropriate point estimate of unit risk for a 70-year exposure to DPM is 300 excess cancer cases per million people (CARB 2000).

The DPM of greatest health concern are those in the categories of fine (PM_{10}) and ultra-fine ($PM_{2.5}$). These fine and ultra-fine particles may be composed of elemental carbon with adsorbed compounds, such as organic compounds, SO_4, nitrate, metals, and other trace elements. The fine and ultra-fine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lungs.



Valley Fever

Valley Fever (formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. Valley Fever is also known as Desert Fever or Cocci. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes such as wind or earthquakes, or by human-induced ground disturbing activities such as construction, farming, etc. Farmers, construction workers, and others who engage in soil-disturbing activities are at highest risk for Valley Fever.

While cases of Valley Fever have been reported throughout California, with most being in the San Joaquin Valley (California Department of Public Health 2016), in 2015 there were 36 cases of Valley Fever in San Bernardino County, an incidence rate of 1.7 cases per 100,000 people (County 2017). Anyone who lives, works, or travels in a valley fever area could contract Valley Fever; however, those most at risk of developing severe symptoms from Valley Fever include older adults greater than 60 years of age, African Americans, Filipinos, Hispanics, pregnant women (especially in the later stages of pregnancy), persons with diabetes, and persons with weakened immune systems (California Department of Public Health 2016).

Farmers, construction workers, and others who engage in soil-disturbing activities are at the highest risk for developing Valley Fever. During the construction of two solar power generating facilities in San Luis Obispo County, 1.2 cases of Valley Fever were observed per 100 workers (Centers for Disease Control and Prevention 2016). For comparison, the overall incidence in 2011 for states where Valley Fever is endemic (Arizona, California, Nevada, New Mexico, and Utah) was 42.6 cases per 100,000 residents (or approximately 0.43 case per 100 people) (Centers for Disease Control and Prevention 2016).

Asbestos

Naturally occurring asbestos is found in serpentine soils in the foothills of California and can become ingested during earth moving activities such as grading. The Naturally Occurring Asbestos Hazards Map was reviewed to determine if the proposed Project would involve construction in areas with relative likelihood for the presence of natural occurring asbestos (USGS 2011). The proposed Project is not located in an area mapped as having or otherwise known to have ultramafic rock, serpentine, or naturally occurring asbestos. The nearest mapped unit is a former asbestos mine located approximately 25 miles northeast of the proposed Project (USGS 2011).

Health Effects of Criteria Pollutants

The EPA and CARB have established AAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like the MDAQMD, have established emission-based thresholds that provide project-level estimates of criteria air pollutant quantities that air basins can accommodate without affecting the attainment dates for the AAQS. Accordingly, elevated levels of criteria air pollutants as a result of a project's emissions could cause adverse health effects associated with these pollutants. However, the health risks associated with exposure to criteria pollutants are evaluated on a regional level. As a result, the mass emissions



significance thresholds used in CEQA air quality analysis are not necessarily indicative of any localized human health impact that a project may have (SCAQMD 2015; SJVAPCD 2015). Therefore, even if the project were to exceed the mass regional emissions thresholds, this would not necessarily indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

Existing Air Quality Conditions

The Mojave Desert Air Quality Management District (MDAQMD) operates the Victorville—14306 Park Avenue monitoring station, which is the nearest monitoring station to the proposed Project. The station monitors O_3, PM, and NO_2; see Table 3, below.

Table 3: Ambient Air Quality

Air Pollutants Monitored at Victorville – Park Avenue	Year			
	2015	2016	2017	2018
Ozone (O_3)				
Maximum 1-hour concentration measured	0.132 ppm	0.100 ppm	0.088 ppm	0.107 ppm
Number of days exceeding national 0.12 ppm 1-hour standard	1	0	0	0
Number of days exceeding state 0.09 ppm 1-hour standard	8	4	0	5
Maximum 8-hour concentration measured	0.105 ppm	0.085 ppm	0.081 ppm	0.098 ppm
Number of days exceeding national 0.075 ppm 8-hour standard	21	18	7	27
Number of days exceeding state 0.07 ppm 8-hour standard	38	33	17	55
Particulate Matter (PM_{10})				
Maximum national 24-hour concentration measured	96.1 ppm	226.5 ppm	182.5 ppm	165.5 ppm
Number of days exceeding national 150 µg/m^3 24-hour standard	0	1.9	1.0	1.0
Particulate Matter ($PM_{2.5}$)				
Maximum 24-hour concentration measured	50.2 ppm	41.5 ppm	27.2 ppm	32.7 ppm
Number of days exceeding national 35 µg/m^3 24-hour standard	0	1	0	0
Maximum State 24-hour concentration measured	50.2 ppm	41.5 ppm	29.3 ppm	33.2 ppm
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration measured	118.1 ppm	97.2 ppm	57.3 ppm	51.4 ppm
Number of days exceeding state 0.18 ppm 1-hour standard	1	0	0	0



Air Pollutants Monitored at Victorville – Park Avenue	Year			
	2015	2016	2017	2018
Ozone (O_3)				
Annual arithmetic mean	10	10	12	11

Notes:
$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million
Source: CARB 2019.

Attainment Status

Local monitoring data (Table 3) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS, see Table 4. The four designations are defined as follows.

- Nonattainment: assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance: assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment: assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified: assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 4: Mojave Desert Air Quality Management District State and Federal Attainment Status

Criteria Pollutant	State Designation	Federal Designation
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	-
Visibility Reducing Particles	Unclassified	-

Source: CARB 2018, USEPA 2018



3.3.1.2 Sensitive Receptors

Sensitive land uses are defined as locations where human populations, especially children, seniors, and sick persons, are located and where there is reasonable expectation of continuous human exposure according to the averaging period for the air quality standards (e.g., 24-hour, 8-hour, and 1-hour). Typical sensitive receptors include residences, hospitals, and schools. While the proposed Project site is in a rural area, the nearest sensitive receptor is a residential community located approximately 400 feet south of the southernmost parcels of the proposed Project.

3.3.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion of Impacts

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant with Mitigation Incorporated.

MDAQMD and the County have adopted goals and rules intended to improve air quality in the region and the MDAB as a whole. The western Mojave Desert is in nonattainment for state and federal O_3 and PM_{10} and state $PM_{2.5}$. The 2016 8-Hour Ozone State Implementation Plan (SIP): Western Mojave Desert Nonattainment Area, 2015 8-Hour Ozone Reasonably Available Control Technology (RACT) SIP Analysis: Mojave Desert Air Quality Management District, 2014 Proposed Updates to the 1997 8-Hour Ozone Standard SIPs: Coachella Valley and Western Mojave Desert 8-Hour Ozone Nonattainment Areas, 2008 Early Progress Plan, 2007 Western Mojave Desert Nonattainment Area 8-Hour Ozone Plan, and 1995 Mojave Desert Planning Area PM_{10} Attainment Plan outline a number of control strategies to help the MDAQMD reach attainment.

Construction emissions for the proposed Project are shown in Table 5. The complete California Emissions Estimator Model (CalEEMod) output file, including all assumptions used, is included as Appendix A.

Table 5: Unmitigated Proposed Projects Projected Maximum Emissions Estimates

Project Emissions	(lbs/day)				
	ROG	**CO**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Total Project Construction Emissions	10.6	72.4	80	20.3	8.9
MDAQMD Construction Significance Thresholds	**137**	**548**	**137**	**82**	**65**
Exceed Threshold	**No**	**No**	**No**	**No**	**No**
Total Project Operation Emissions	0.050	0.586	0.001	0.000*	0.000*
MDAQMD Annual Significance Thresholds	**25**	**100**	**25**	**15**	**12**
Exceed Threshold	**No**	**No**	**No**	**No**	**No**

Notes:

CO = carbon monoxide
lbs/day = pounds per day
MDAQMD = Mojave Desert Air Quality Management District
NOx = nitrogen oxides
PM2.5 = ultra-fine particulate matter
PM10 = fine particulate matter
ROG = reactive organic gases
* = nonzero value that rounds to zero

As shown in Table 5, neither construction nor operation of the proposed Project would not exceed the MDAQMD's thresholds of significance for any criteria pollutants. For a conservative estimate, emissions during Project decommissioning-related activities were considered to be equal to those during construction-related activities. As decommissioning would occur decades in the future, however, the equipment fleet for decommissioning is expected to be substantially cleaner than that assumed for the construction analysis. However, out of an abundance of caution, mitigation measure AQ-1 (Dust Control) would be implemented. Moreover, the proposed Project would increase the amount of renewable energy available in California. Accordingly, the proposed Project would contribute to the region's long-term goals of increasing energy efficiency and reducing air pollution. Consequently, the proposed Project would be consistent with current MDAQMD air quality plans. In addition, the proposed Project would also comply with all MDAQMD rules and regulations. Based on the factors presented above, the proposed Project would not conflict with or obstruct implementation of any applicable land use plan or policy.

Maintenance of the proposed Project would be performed by up to six remote employees as well as two panel washing events per year. It is anticipated that panel washing would result in the generation of roughly 10 trips per event, as the events would last approximately 5 days, and two workers would carpool to the site each time. Thus, there is minimal anticipated increase in operational emissions associated with ongoing maintenance. Impacts would be less than significant with mitigation incorporate during the construction phase, operations phase, and the decommissioning phase.



Mitigation Measures

AQ-1: **Dust Control**: Fugitive dust emissions during construction, operational, and decommissioning activities shall be controlled by the Applicant through regular watering or other dust preventive measures using the following procedures, as specified by the MDAQMD, including but not limited to MDAQMD Rule 401, Visible Emissions, and Rule 403, Fugitive Dust:

- Onsite vehicle speed shall be limited to 15 miles per hour.
- All onsite construction roads with vehicle traffic shall be watered periodically during operation. Watering frequency during operation shall be determined by the MDAQMD.
- Streets adjacent to the proposed Project site shall be swept as needed to remove silt that may have accumulated from construction activities to prevent excessive amounts of dust.
- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice daily during construction with complete coverage, preferably in the late morning and after work is done for the day.
- All clearing, grading, earth-moving, or excavation activities shall cease during periods of high winds (i.e., greater than 25 miles per hour averaged over one hour) to prevent excessive amounts of dust.
- All material transported on- or offsite shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earth-moving, or excavation operations shall be minimized to prevent excessive amounts of dust.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant with Mitigation Incorporated

Air pollution is largely a cumulative impact. The non-attainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of ambient air quality standards. Since air quality is measured on a regional level, the MDAQMD sets allowable regional emission thresholds to measure the contributions of each individual project on a cumulative level. In other words, the MDAQMD project-level thresholds of significance described above are used to determine whether a project's individual emissions would have a cumulatively significant impact on air quality. The proposed Project would be considered to contribute considerably to a significant cumulative impact if project emissions resulted in an increase in non-attainment criteria pollutants ROG, NOx, PM_{10}, or $PM_{2.5}$ of more than the thresholds illustrated in Table 5. As described for



Impact a) and shown in Table 5, short-term construction and decommissioning emissions would not exceed the applicable significance thresholds for any criteria pollutants.

As previously indicated, the MDAQMD requires that all construction activities comply with fugitive dust control requirements and guidance documents. Fugitive dust emissions from the proposed Project were estimated based on the assumption that up to 350 acres would be graded during site preparation as a result of constructing gen-tie route and any grading required for the PV installation. Implementation of mitigation measure AQ-1 (Dust Control) would reduce fugitive dust emissions from construction activities, thus potential impacts would be less than significant.

The proposed Project's operational emissions would result from remote employee trips and approximately two panel washing events per year. Thus, there is minimal anticipated increase in operational emissions associated with ongoing maintenance, resulting in a less than significant impact from proposed Project operation emissions.

Mitigation Measures

AQ-1: Dust Control

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant with Mitigation Incorporated

Construction associated with implementation of the proposed Project would involve the operation of heavy equipment and activities that would temporarily produce additional dust and air emissions. The nearest sensitive receptor to the proposed Project is a residential community located approximately 400 feet south of the southernmost parcels of the proposed Project.

This sensitive receptor could be affected by construction-generated air emissions depending on location and distance and duration of construction activities. Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics.

Fugitive Dust

Fugitive dust is typically generated during earth-moving activities such as grading and excavation. Fugitive dust emissions from the proposed Project were estimated based on the assumption that up to 350 acres would be graded during site preparation as a result of constructing gen-tie route and any grading required for the PV installation. As discussed in Impact a), to minimize potential impacts to sensitive receptors, fugitive dust controls would be implemented through application of mitigation



measure AQ-1 (Dust Control), which includes watering exposed soils and soils being transported offsite, as well as watering and speed limits on dirt roads. These measures would dampen and secure loose soils that turn into fugitive dust when caught in the wind, effectively limiting emissions of fugitive dust from construction activities.

Valley Fever

Construction of the proposed Project has the potential to generate substantial amounts of fugitive dust that may suspend Coccidioides spores and expose sensitive receptors. The City is located in an area with low Valley Fever activity (California Department of Public Health 2016); however, there is still a potential for exposure. Fugitive dust control measures implemented by mitigation measure AQ-1 (Dust Control), such as wetting the soil, would reduce fugitive dust minimizing exposure of Coccidioides spores to workers and receptors. Therefore, with the implementation of mitigation measure AQ-1 (Dust Control), impacts related to Valley Fever from the proposed Project would be less than significant.

Asbestos

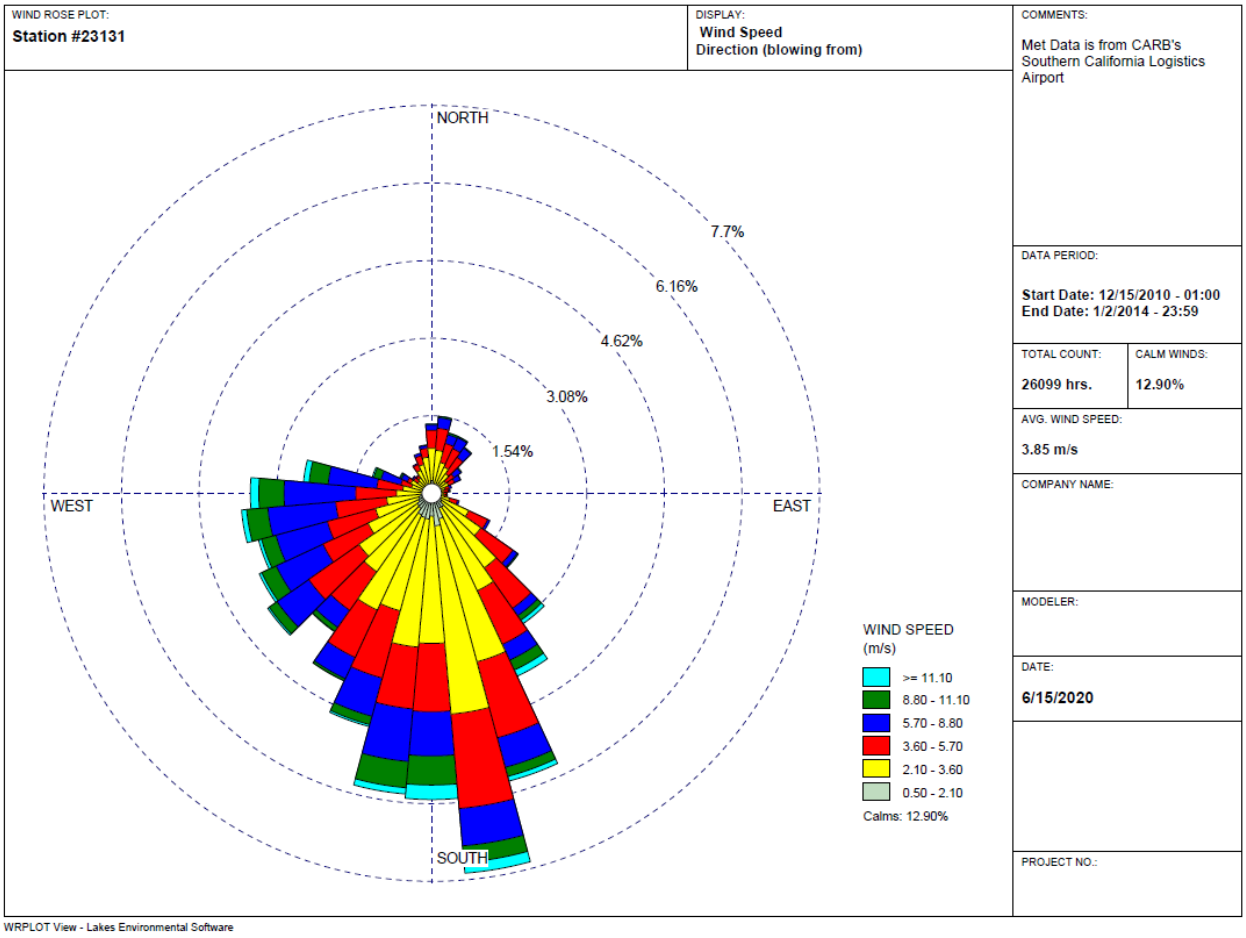
As described in Section 3.3.1, Air Quality Setting, the proposed Project is not located in an area mapped as having or otherwise known to have ultramafic rock, serpentine or naturally occurring asbestos. The nearest mapped unit is approximately 25 miles northeast of the proposed Project (USGS 2011). Therefore, the Statewide Asbestos Airborne Toxic Control Measure (ATCM) would not apply unless ultramafic rock or serpentine is discovered during grading or excavation of the proposed Project. In the unexpected event that ultramafic rock or serpentine is discovered, the MDAQMD must be notified no later than the following business day and must comply with the State of California ATCM for Construction, Grading, Quarrying, and Surface Mining Operations.

Toxic Air Contaminants

Construction of the project would result in temporary increases in emissions of diesel particulate matter (DPM) from off-road diesel equipment and vehicle trips. Health-related risks associated with DPM emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, the calculation of cancer risk associated with exposure to TACs are typically calculated based on a long-term period of exposure. Based on updated guidelines from the Office of Environmental Health Hazard Assessment, cancer risks are based on constant daily exposure for 30 years and 25 years for offsite residential and worker receptors, respectively. Construction activities would occur over an approximately 18-month construction period, which would constitute approximately 5 percent and 6 percent of the residential and worker exposure durations, respectively.

Construction activities would span across the Project site which is approximately 1,197 acres. The nearest sensitive receptors are located approximately 400 feet away in a residential community south of El Mirage Road. Construction activities located near the residential community would be limited to a few weeks as construction tasks are completed, and construction activities progress away from this location to other areas of the Project site.

The nearest meteorological station for the Project area is the Southern California Logistics Airport and best represents meteorological conditions for the Project area.[1] Based on data from this meteorological station, the prevailing wind direction is south to north and southwest to northeast as shown in the below graphic. Receptors located downwind of construction activities are likely to be exposed to higher concentrations of pollutants. The nearest sensitive receptors would be located upwind of construction activities and are likely to be exposed to lower concentrations of DPM.



Overall, sensitive receptors would not be constantly exposed to DPM emissions for an extended period of time and the receptors are not located downwind of the prevailing wind direction where concentrations of DPM are likely to be high. For these reasons and given the relatively high dispersive properties of DPM, exposure to construction generated DPM would not be anticipated to exceed applicable thresholds for cancer risk and non-cancer risks including the chronic and acute hazard index. Therefore, the Project

[1] CARB, HARP AERMOD Meteorological Files. Available at :https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files. Accessed on June 15, 2020.

would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

Localized Carbon Monoxide Emissions

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.).

According to the transportation impact analysis presented in Section 3.17, Transportation, roadway segments within the vicinity of the proposed Project would operate at level of service (LOS) A or better and would increase traffic 1.43 percent during the most intensive phase of the proposed Project. Should diesel vehicles be utilized on the Project, they would be subject to CCR Title 43, Article 4.8, Chapter 9, Section 2449 which limits the idling time of self propelled diesel off-road equipment to no more than five consecutive minutes. Because LOS levels will not degrade appreciably and will remain LOS A, the proposed Project would not generate congested traffic conditions resulting in a CO hotspot, and this impact would be less than significant. The operational trips would not constitute a substantial increase in localized CO emissions and therefore would result in a less than significant impact.

Conclusion

As discussed above, with implementation of mitigation measure AQ-1 (Dust Control), the proposed Project would not cause or be exposed to substantial pollutant concentrations, including localized CO, TACs, or fugitive dust. Therefore, exposure of sensitive receptors to substantial pollutant concentrations would not occur, and the impact is less than significant with mitigation during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

AQ-1: Dust Control

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact.

Odors are generally regarded as an annoyance rather than a health hazard. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative methodologies to determine the presence of a significant odor impact do not exist. According to the CARB's Air Quality and Land Use Handbook, some of the most common sources of odor complaints received by local air districts are sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005).



As discussed under Impact c) above, construction of the proposed Project would require use of diesel-based equipment that could result in emissions of diesel fumes. Diesel fumes from construction equipment can be found to have objectionable odors in addition to the health risks associated with DPM described in Impact c). Diesel odors from construction may be perceived as objectionable in lower concentrations than required to start to cause a health risk. These emissions would be temporary and intermittent throughout construction and would follow federal, state, and local regulation, including applicable MDAQMD rules and regulations. These emissions are not anticipated to result in an adverse effect to a substantial number of people because of the duration, anticipated distance of receptors from construction activities, and regulations and equipment designed to limit emissions.

Cumulative Impacts

Six local projects have been determined to be a related project as defined by CEQA Guidelines 15130(b). All of which are located approximately 1.70- to 4.5-miles of the proposed Project. The overall air quality impacts of the Project are expected to be below significance thresholds. The project level analysis concluded that impacts to air quality would be less than significant because they are below MDAQMD thresholds and would be subject to MDAQMD dust control measures ((Mitigation Measure AQ-1 (Dust Control).

Other significantly large projects in the Basin are not believed to be under consideration for construction during construction of the proposed Project. Should such a project exist; however, it would be subject to the MDAQMD regulatory program and permitting standards, including the requirement to minimize emissions through the utilization of BACT, the full mitigation of emissions through offset programs, and demonstrations that the Project would not cause or significantly add to a violation of California or federal ambient air quality standards. In addition, the project as well as most of the related cumulative projects would comply with the district's rules review process. Therefore, the project's incremental contribution to that impact is not cumulatively considerable.

3.4 BIOLOGICAL RESOURCES

3.4.1 Setting

Existing Site Conditions

The proposed Project site (defined as the solar project site and gen-tie options) is relatively flat, with a maximum elevation of approximately 2,815 feet amsl at the southwestern corner of the proposed Project site at El Mirage Road and a minimum elevation of approximately 2,7545 feet amsl at the northeastern corner just north of Colusa Road. The majority of the area immediately surrounding the proposed Project site consists of open space, with the Shadow Mountains to the north and US-395 to the east. The Fremont Wash traverses parts of the northern and western portions of the proposed Project site.

Some homes (approximately six) are located near the proposed Project site. A residential community is located approximately 400 feet south of the southernmost parcels of the proposed Project site. The gen-tie routes are located along existing roads and traverse relatively flat open space, often adjacent to the residential communities that are interspersed throughout the area.

Baseline Data Collection Methodology

Information used in preparing this section was derived from a number of sources including the following:

- Biological Resources Technical Report (BRTR) prepared by SWCA Environmental Consultants (SWCA) (Appendix B.1),
- Preliminary Wetlands/Waters Jurisdictional Delineation Report prepared by Stantec (Appendix B.2)
- Focused Rare Plant Survey Report prepared by SWCA (Appendix B.3)
- Focused Desert Tortoise Survey Report prepared by SWCA (Appendix B.4)
- Mohave Ground Squirrel Habitat Survey Letter of Findings prepared by ENVIRA (Appendix B.5)
- Mojave Fringe-toed Lizard Potential to Occur Technical Memorandum prepared by SWCA (Appendix B.6)

Vegetation Communities and Observed Plant Species

Mapping of plant communities follows the classification system described in the second edition of *A Manual of California Vegetation* (Sawyer et al. 2009). Species' scientific and common names correspond to those described in the second edition of *The Jepson Manual* (Baldwin et al. 2012).

A detailed list of species observed during the field survey is presented in the BRTR (Appendix B.1) and Focused Rare Plant Survey Report (Appendix B.3). Observations were primarily comprised of common plant species characteristic of habitat within the Mojave Desert area of Southern California. One rare or special-status plant species, Beaver Dam breadroot (*Pediomelum castoreum*), and one plant species currently under consideration for protection under the California Endangered Species Act (CESA), Joshua tree, were observed within the Project area. These species are discussed further in Special Status Plants below.



Habitat types within the proposed Project site are best described as a mixture of Mojave desert scrub and chenopod scrub interspersed with Joshua Tree Woodlands. Ten vegetation communities were identified on-site including White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance), Fourwing Saltbush Scrub (*Atriplex canescens* Shrubland Alliance), Allscale Scrub (*Atriplex polycarpa* Shrubland Alliance), Mojave-Sonoran Desert Dunes (*Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance), Nevada Joint Fir Scrub (*Ephedra nevadensis* Shrubland Alliance), Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance), Creosote Bush-White Bursage Scrub (*Larrea tridentata-Ambrosia dumosa* Shrubland Alliance), Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance), Rubber Rabbitbrush Scrub (*Ericameria nauseosa* Shrubland Alliance), and Red Brome or Mediterranean Grass Grasslands (*Bromus rubens - Schismus [arabicus, barbatus]* Herbaceous Semi-Natural Alliance). A summary of the vegetation and land cover types within the proposed Project site is presented in the table below.

Table 6: Summary of Vegetation and Land Cover Types

Vegetation Community	Global Rank	State Rank	Acres within the proposed Project site
Creosote Bush-White Bursage Scrub *Lareea tridentate-Ambrosia dumosa* Shrubland Alliance	G5	S5	588.86
Allscale Scrub *Aitriplex polycarpa* Shrubland Alliance	G4	S4	410.68
Creosote Bush Scrub *Larrea tridentate* Shrubland Alliance	G5	S5	132.93
Joshua Tree Woodland *Yucca brevifolia* Woodland Alliance	G4	S3.2	53.26
White Bursage Scrub *Ambrosia dumosa* Shrubland Alliance	G5	S5	32.23
Developed/Disturbed	N/A	N/A	59.68
Fourwing Saltbrush Scrub *Atriplex canescens* Shrubland Alliance	G5	S4	9.39
Nevada Joint Fir Scrub *Ephedra nevadensis* Shrubland Alliance	G5	S4	3.05
Mojave-Sonoran Desert Dunes *Dicoria canescens – Abroia villosa – Panicum urvilleanum* Sparsely Vegetated Alliance	G4	S3.2	1.60
Rubber Rabbitbrush Scrub *Ericameria nauseosa* Shrubland Alliance	G5	S5	0.35
Red Brome or Mediterranean Grass Grasslands *Bromus rubens – Schismus (arabicus, barbatus)* Herbaceous Semi-Natural Alliance	N/A	N/A	2.30

Global Rank:
- G4 = Over 100 viable occurrences worldwide/statewide, and/or more than 32,000 acres
- G5 = Demonstrably secure because of its worldwide/statewide abundance

State Rank:
- S3 = 21-100 viable occurrences worldwide/statewide, and/or more than 6,400-32,000 acres
- S4 = Over 100 viable occurrences worldwide/statewide, and/or more than 32,000 acres
- S5 = Demonstrably secure because of its worldwide/statewide abundance

Additional State Threat Rank:
- 0.2 = Threatened

Acres within the main project area, excludes the gen-tie routes. Disturbed and undisturbed vegetation alliances were mapped separately as shown in the BRTR. Acres here include both.

Jurisdictional Waters and Wetlands

Based on the data collected in the field and further detailed within the Preliminary Wetlands/Waters Jurisdictional Delineation Report (Appendix B.2), two types of jurisdictional features occur within the Jurisdictional Delineation Survey Area (JDSA, defined as the solar Project site, proposed gen-tie alignments, and a 100-foot buffer): United States Army Corps of Engineers (USACE) non-wetland (ephemeral desert washes) waters of the United States (WOTUS) and California Department of Fish and Wildlife (CDFW) jurisdictional waters. No portion of the JDSA meets the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils), and no surface water was present during the survey event.

Federal (USACE) Non-Wetland Waters

Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the ordinary high water mark (OHWM), there are 1.21 acres of non-wetland WOTUS present within the JDSA.

CDFW Jurisdictional Waters

Following an assessment of hydrology and/or the presence of bed and bank, a total of 16.57 acres of CDFW jurisdictional streams are present within the JDSA.

Common Wildlife

Common wildlife directly observed onsite included eight species of birds, one reptile, and three mammals (a complete list of wildlife observed is presented in Appendix A of the BRTR [Appendix B.1]). The birds most frequently encountered were typical of the Mojave Desert: common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), sagebrush sparrow (*Artemisiospiza nevadensis*), and white-crowned sparrow (*Zonotrichia leucophrys*). Two species of mammals were observed: white-tailed antelope squirrel (*Ammospermophilus leucurus*) and black-tailed jackrabbit (*Lepus californicus*). In addition, there was recent evidence of coyote and other common mammals. Please refer to BRTR's Appendix C (Faunal Compendium) of Appendix B.4 (Focused Desert Tortoise Survey Report) for a detailed account of all species documented during focused surveys.

Special-Status Wildlife

Based on the results of the literature and database review described in Appendix A of the BRTR (Appendix B.1), a total of 31 special-status wildlife species were found to historically occur within the region. These species were evaluated for their potential to occur in the proposed Project area based on considerations of local records, habitat conditions, and environmental requirements (Table 7). After this assessment, 11 species were considered to have the potential to occur at or near the proposed Project site, each of which is discussed in detail as part of the BRTR in Appendix B.1.

Five special-status species or their diagnostic sign were observed during the various surveys: loggerhead shrike (*Lanius ludovicianus*) was observed directly, and signs of desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis arsipus*), and American badger (*Taxidea taxus*) were identified. Mohave ground squirrel (*Xerospermophilus mohavensis*) are known to occur in the area, and there are California Natural Diversity Database (CNDDB) records immediately adjacent to the proposed Project site. A habitat suitability memorandum and map for this species, specific to the proposed Project site, is presented in Appendix B.5.

Table 7: Occurrence Potential for Special Status Wildlife in the Proposed Project Area

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
INVERTEBRATES			
Crotch bumble bee *Bombus crotchii*	SC	Coastal California to Sierra-Cascade crest, and to Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	**Low.** Food plant species are present (*Eriogonum*) in the proposed Project site however, there are no recent records for this species within or adjacent to the Project site
San Emigdio blue butterfly *Plebulina emigdionis*	SA	Desert canyons and along riverbeds. Host plant is *Atriplex canescens*; possibly *Lotus purshianus.*	**Absent.** No suitable habitat is present within the proposed Project site.
Victorville shoulderband *Helminthoglypta mohaveana*	SA	Known only from along the Mojave River in San Bernardino County. Found among granite boulders and at the base of rocky cliffs.	**Absent.** No suitable habitat is present within the proposed Project site.
FISH			
Mohave tui chub *Siphateles bicolor mohavensis*	CSSC	Endemic to the Mojave River basin, alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning.	**Absent.** No suitable habitat is present within the proposed Project site.
AMPHIBIANS			

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
Arroyo toad *Anaxyrus californicus*	FE	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	**Absent.** No suitable habitat in the proposed Project site. The Fremont Wash does not contain the specific habitat needs for this species, specifically sufficient riparian vegetation.
California red-legged frog *Rana draytonii*	FT, CSSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation.	**Absent.** No suitable habitat in the proposed Project site.
REPTILES			
Western pond turtle *Emys marmorata*	CSSC	Ponds, marshes, rivers, streams, and irrigation ditches, with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	**Absent.** No suitable habitat in the proposed Project site.
Desert tortoise *Gopherus agassizii*	FT, ST	Desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Requires friable soil for burrow and nest construction. Creosote bush habitat with annual wildflower blooms preferred.	**Present.** Several burrows and scat were found during the focused surveys. The nearest CNDDB record is from 2002 located 2.7 miles to the north.
Coast (Blainville's) horned lizard *Phrynosoma blainvillii*	CSSC	Most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Absent.** There is no suitable habitat within the proposed Project site. Desert horned lizards (*Phrynosoma platyrhinos*) replace this species in hotter, drier areas.
BIRDS			
Tricolored blackbird *Agelaius tricolor*	ST, CSSC	Requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of colony.	**Absent.** Habitat is unsuitable for foraging; no nesting habitat is present.
Golden eagle *Aquila chrysaetos*	CFP WL	Forages in open grasslands, desert scrub, and agricultural fields. Nests on ledges on cliff faces, rock outcrops, and occasionally in large trees.	**High (foraging). Absent (nesting).** Suitable habitat for wintering and foraging eagles is present. No nesting habitat present.
Long-eared owl *Asio otus*	CSSC	Riparian bottomlands grown to tall willows and cottonwoods; requires adjacent open land, with rodent food sources and raptor nests for breeding.	**Absent.** No suitable habitat in the proposed Project site.

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
Burrowing owl *Athene cunicularia*	CSSC	Open grassland, shrublands and croplands	**Present.** Burrows were found throughout the proposed Project site. Some had signs of burrowing owl occupation such as whitewash, pellets, and feathers. The nearest record of this species is from 2007 and is located 3.3 miles to the southeast.
Swainson's hawk *Buteo swainsoni*	ST	Nests in stands with few trees in juniper-sage flats, riparian areas, oak savannahs, and occasionally Joshua trees in desert habitats. Forages in natural grasslands, pastures, agricultural fields, and desert scrub in desert habitats.	**Low.** Potential nesting (e.g. Joshua tree woodland) and foraging (e.g. desert scrub) habitat is present on the proposed Project site; however, local records are concentrated near more traditional habitat for the species near the Mojave River and areas of agriculture.
Mountain plover *Charadrius montanus*	CSSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	**Absent.** No suitable habitat in the proposed Project site.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE	Riparian forest nester along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Absent.** No suitable habitat in the proposed Project site.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE, SE	Riparian woodlands in Southern California.	**Absent.** No suitable habitat in the proposed Project site.
Yellow-breasted chat *Icteria virens*	CSSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, and wild grape.	**Absent.** No suitable habitat in the proposed Project site.
Loggerhead shrike *Lanius ludovicianus*	CSSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Present.** Species was observed during the field survey.

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
Summer tanager *Piranga rubra*	CSSC	Summer resident of desert riparian along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams.	**Absent.** No suitable habitat in the Project site.
Yellow warbler *Setophaga petechia*	CSSC	Riparian plant associations. Nests and forages in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	**Absent.** No suitable habitat in the Project site.
Least Bell's vireo *Vireo bellii pusillus*	FE, SE	Summer resident of Southern California. Low riparian habitats near of water or dry river bottoms, below 2,000 feet.	**Absent.** No suitable habitat in the Project site.
Gray vireo *Vireo vicinior*	CSSC	Dry chaparral; west of desert, in chamise-dominated habitat; mountains of Mojave Desert, associated with juniper & *Artemisia.*	**Absent.** No suitable habitat in the Project site.
MAMMALS			
Pallid bat *Antrozous pallidus*	CSSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low (foraging only).** Habitat in the proposed Project site is suitable for foraging; there is no roosting habitat present. This species has been recorded 14.2 miles southeast of the proposed Project site in 2016.
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	CSSC	San Diego County in desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	**Low.** There is suitable habitat in the proposed Project site, specifically within the Fremont Wash. The nearest record of this species is from 1920 and is located 5.2 miles to the east.
Townsend's big-eared bat *Corynorhinus townsendii*	CSSC	Most common in mesic sites. Roosts in caves and mines, sometimes buildings, bridges, trees. Roosting sites limiting. Extremely sensitive to human disturbance.	**Low (foraging only).** Habitat in the proposed Project site is suitable for foraging; there is no roosting habitat present. This species has been recorded 5.2 miles east of the proposed Project site in 1930.
Western mastiff bat *Eumops perotis californicus*	CSSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Low (foraging only).** Habitat in the proposed Project site is suitable for foraging; there is no roosting habitat present. The nearest CNDDB record of this species is from 1997, approximately 7.6 miles west of the proposed Project site.



Scientific Name	Status[1]	Habitat Type	Occurrence Potential
Mohave river vole *Microtus californicus mohavensis*	CSSC	Weedy herbaceous growth in wet areas along Mojave River. Sometimes found in irrigated pastures. Burrows into soft soil. Feeds on leafy parts of grasses, sedges and herbs.	**Absent.** No suitable habitat in the proposed Project site.
Desert kit fox *Vulpes macrotis arsipus*	CPF	Desert scrub, washes, and arid grasslands	**Present.** Several dens with fresh scat were found during the survey. Species not tracked in any public databases.
American badger *Taxidea taxus*	CSSC	Dry open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food (rodents) and open uncultivated ground for burrows.	**Present.** Several dens with clearly visible signs, such as claw marks were found. The most recent record is from 1987 and 20 miles south of the proposed Project site.
Mohave ground squirrel *Xerospermophilus mohavensis*	ST	Open desert scrub, alkali scrub and Joshua tree woodland. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover.	**High.** The presence of this species could not be confirmed due to the timing of the survey. This species does not emerge from hibernation until March-June. There is suitable habitat in the proposed Project site. The nearest CNDDB record is from 2005 and within 40 meters of the proposed Project site.

[1] Federal Rankings:
FC = Federal Candidate for Listing
FE = Federally Endangered
FT = Federally Threatened
WL = Watch List

State Rankings:
CFP = California Fully Protected
CPF = California Protected Fur-bearer
CSSC = California Species of Special Concern
SA = CDFW Special Animal
SC = State Candidate for Endangered Listing
SE= State Endangered

Special-Status Plants

As noted in the BRTR (Appendix B.1) and Focused Rare Plant Survey Report (Appendix B.3), one rare or special-status plant species (Beaver Dam breadroot), one species currently under consideration for CESA protection (Joshua tree), and six additional special-status plants were determined to have a low, moderate, or high potential to occur; each is discussed in detail below in Table 8.

Table 8: Special Status Plants

Species	Status[1]	Habitat Description[2]	Blooming Period	Potential for Occurrence
desert cymopterus *Cymopterus deserticola*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. On fine to coarse, loose, sandy soil of flats in old dune areas with well-drained sand. 630-1,500 meters.	March-May	**Low.** There is suitable habitat in the survey area; the nearest record of this species is from 1941, 13.1 miles to the southeast.

Species	Status[1]	Habitat Description[2]	Blooming Period	Potential for Occurrence
Mojave monkeyflower *Diplacus mohavensis*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. Dry sandy or rocky washes along the Mojave River. 660-1,270 meters.	April-June	**Low.** There is moderate quality habitat in the survey area; the nearest record of this species is from 1998, 5.9 miles to the east.
Booth's evening-primrose *Eremothera boothii* ssp. *boothii*	2B.3	Joshua Tree Woodland, pinon and juniper woodland. 290-2,410 meters.	June-August	**Low.** There is marginally suitable habitat in the survey area; the nearest record of this species is from 1989, 5.0 miles to the east.
Barstow woolly sunflower *Eriophyllum mohavense*	1B.2	Chenopod scrub, Mojavean desert scrub, desert playas. Mostly in open, silty or sandy areas with Saltbush Scrub or Creosote Bush Scrub. Barren ridges or margins of playas. 605-1,290 meters.	March-May	**Moderate.** There is suitable habitat in the survey area; the nearest record of this species is from 2011, 13.3 miles to the northwest.
sagebrush loeflingia *squarrosa* var. *artemisiarum*	2B.2	Great Basin scrub, Sonoran Desert scrub, desert dunes. Sandy flats and dunes. Sandy areas around clay slicks with *Sarcobatus*, *Atriplex*, *Tetradymia*, etc. 700-1,615 meters.	April-May	**Low.** There is marginally suitable habitat in the survey area; the nearest record of this species is from 2005, 9.1 miles to the south.
short-joint beavertail *Opuntia basilaris* var. *brachyclada*	1B.2	Chaparral, Joshua Tree Woodland, Mojavean desert scrub, pinon-juniper woodland. Sandy soil or coarse, granitic loam. 425-1,800 meters.	April-June	**Low.** There is marginally suitable habitat in the survey area; the nearest record of this species is from 2006, 13.1 miles to the south.
Beaver Dam breadroot *Pediomelum castoreum*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. Sandy soils; washes and road cuts. 610-1,065 meters.	April-May	**Present.** This species was documented within the proposed Project site.
southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425-2,000 meters.	June-August	**Absent.** There is no suitable habitat in the survey area.
San Bernardino aster *Symphyotrichum defoliatum*	1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 2-2,040	July-November	**Absent.** There is no suitable habitat in the survey area.

Species	Status[1]	Habitat Description[2]	Blooming Period	Potential for Occurrence
Joshua tree *Yucca brevifolia*	Proposed [3]	Well-drained sandy and gravelly alluvial fans adjacent to desert mountain ranges. 487 to 2,195 meters.	April-May	**Present.** This species was documented within the proposed Project site.

Notes:

1. Ranks for the species included in this list are sourced from CNDDB. All plants included in this list are limited to California Rare Plant Ranks (CRPR).
2. Habitat descriptions are direct quotes from CNDDB, consisting of the general and microhabitat descriptions of the corresponding element.
3. Proposed for listing as Threatened under the California Endangered Species Act.

CRPR Rankings:

1B: Rare, threatened, or endangered in California and elsewhere.

2B: Rare, threatened, or endangered in California, but more common elsewhere.

0.2: Fairly threatened in California.

0.3: Not very threatened in California

3.4.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES — Would the project:				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion of Impacts

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Less Than Significant with Mitigation Incorporated.

Special-Status Plant Species

Operation and decommissioning of the proposed Project is not expected to result in direct or indirect impacts to listed or other special-status plants; however, construction would potentially result in impacts to Joshua tree, a species currently proposed for listing under the CESA, and Beaver Dam breadroot. Joshua tree woodland habitat accounts for <4% of the Project site, and, in general, individual trees are sparse. Surveys to identify specimen trees and Joshua tree habitat requiring mitigation, as defined by the San Bernardino County Development Code 88.01, will be conducted prior to Project initiation.

The majority of special-status plants known to occur in the region have been determined to have no or a low potential to occur within the proposed Project site. One California Rare Plant Rank (CRPR) 1B.2 species, Barstow woolly sunflower (*Eriophyllum mohavense)* was determined to have a moderate potential of occurrence. If any listed or other special-status plants are encountered during pre-construction surveys, they would be marked and avoided to the maximum extent possible.

If present, direct impacts to special-status plants include trampling or crushing from heavy equipment, vehicles, or foot traffic; alterations to the native seed bank due to soil compaction; and modifications to existing hydrological conditions. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native and invasive plant species. Excessive dust can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Ground-disturbing activities that would occur during construction of the proposed Project can result in the proliferation and spread of non-native invasive plants to new areas. Because



noxious weeds can permanently degrade rare plant and animal habitats, their proliferation could adversely affect sensitive plant species if they are present.

Typically, impacts to a small number of nonstate or federally listed special-status plants (i.e., impacts to a few individuals), or impacts to a population where loss of a few occurrences would not adversely affect the range of the special-status plant species, are not typically considered significant under CEQA. Pursuant to coordination with the Lead Agency, if proposed Project activities result in the loss of more than 10 percent of the known individuals within the occurrence, or the special-status plant species has a CRPR of 1.B or list 2, these impacts would be considered significant.

Special-Status Wildlife

Special-Status Reptiles

One special-status reptile, desert tortoise (federally and state listed as threatened), was determined to be present within the proposed Project areas. During the protocol surveys conducted within the proposed Project areas, no live tortoises were found, although one tortoise burrow in good condition was observed along with scat. The desert tortoise habitat present on-site has been determined to be of moderate quality, due to an abundance of anthropogenic disturbances and habitat degradation over time. Across the entirety of the proposed Project area, 59 burrows were identified as potential tortoise burrows, meaning that they had been originally excavated by desert tortoise, whether or not they were currently suitable for occupancy. Construction activities associated with the proposed Project could result in the direct loss of sensitive and reptiles such as desert tortoise and the loss of suitable foraging habitat. Given the ecology of these species and their cryptic nature, it is likely that a few individuals may occur in or near the proposed Project site. Direct impacts could result from potential mechanical crushing during construction, fugitive dust, and general disturbance due to increased human activity. Project implementation may also result in permanent loss of habitat from the removal of trash and debris piles or trampling of soft friable soils required for burrowing. Indirect impacts could include compaction of soils and the introduction of exotic plant species.

Operational impacts include increased human presence, the spread of noxious weeds due to the use of new or improved access roads, and increased perch sites for avian predators, such as common raven. Inspection and maintenance of the Project could result in trampling or crushing of small invertebrates and reptiles by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence (e.g., weed seed travelling on vehicles).

Special-Status Birds

Construction activities associated with the proposed Project could result in direct and indirect impacts to a variety of sensitive resident and migratory birds. Direct impacts to listed species are not anticipated because nesting habitat for most listed birds is not present onsite. Swainson’s hawks may nest in Joshua trees and forage in desert scrub in the region, however no incidental observations of the species or historic nests have been documented within the Project site. Surveys will be conducted to confirm the



absence or presence of nesting Swainson's hawks prior to Project initiation. There are several nonlisted special-status species that are known from the region, some of which were identified during the field surveys. These include the golden eagle (*Aquila chrysaetos* [California fully protected]), burrowing owl (California species of special concern), and the loggerhead shrike (California species of special concern).

Construction activities associated with the proposed Project could result in direct and indirect impacts to a variety of sensitive resident and migratory birds. Direct impacts to listed species are not anticipated because nesting habitat for most listed birds is not present onsite. There are several nonlisted special-status species that are known from the region, some of which were identified during the field surveys. These include the golden eagle (*Aquila chrysaetos* [California fully protected]), burrowing owl (California species of special concern), and the loggerhead shrike (California species of special concern).

If the proposed Project construction were to occur during the avian nesting season (generally considered to be between February 15 and September 15; although some raptors species may nest as early as January) indirect impacts to nesting birds could occur. Nesting birds are expected to occur in the proposed Project areas and may nest in the debris piles and various vegetation communities across the site. Direct impacts to special-status birds, should they occur, include ground-disturbing activities associated with construction, increased noise levels from heavy equipment, increased human presence, and exposure to fugitive dust. Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. Indirect impacts include human disturbance, the spread of noxious weeds, and disruption of breeding or foraging activity. Weed management could also affect nesting.

Additional causes of avian injuries and fatalities at commercial-scale solar projects resulting from the operations of solar facilities are continuing to be evaluated by the USFWS and CDFW. Though solar PV monitoring efforts are in their infancy, some studies suggest that the Project's PV panels may attract birds to the Project site where they might mistake the reflective panels for a water body, known as the "lake effect" hypothesis (Roth, 2016), and these birds could be at risk of collision with Project infrastructure. A USFWS summary of avian solar facility mortalities by Dietsch (2016) cited 3,545 bird deaths at seven Southern California solar farms from 2012 to April 2016, including the mortality of several special-status birds.

It should be kept in mind, however, that background avian mortalities in desert environments tend to be high due to the harsh conditions, and recent studies have indicated that when background mortality is properly considered, solar PV projects do not present a significant collision risk. For example, recent avian monitoring programs at the California Valley Solar Ranch (CVSR) and the Topaz Solar Farm in San Luis Obispo County have studied avian mortality events at solar facilities and off-site baseline study areas. During a 12-month period in 2014, H.T. Harvey and Associates recorded 368 avian mortalities at CVSR.

Kosciuch et al. (2020) analyzed avian fatality data from 13 studies at 10 PV solar sites in the Southwestern US and calculated an average fatality estimate of 2.49 birds per megawatt per year. Kosciuch et al. (2020) found the species with the highest adjusted composition of fatalities among projects were widely-distributed ground dwelling birds with large populations in the area where the studies



occurred. Fatalities of water-obligate birds (species that cannot take-off from land including loons and grebes) were higher at PV solar sites near the Salton Sea, a known stop-over area (Kosciuch et al. 2020). However, no study that Kosciuch et al. (2020) reviewed investigated the potential cause of water-obligate mortality at PV solar.

Special Status Mammals

Construction activities associated with the proposed Project could result in direct and indirect impacts to a variety of listed and other special-status mammals. The proposed Project site supports suitable habitat for the state threatened Mohave ground squirrel, and this species is known to occur in the general vicinity of the proposed Project site. There are historical records for this species within 130 feet of the proposed Project site.

Desert kit fox (a state protected furbearing mammal) and American Badger (California Species of Special Concern) were detected within the boundaries of the proposed Project site and are known to occur in adjacent habitat. Bats, including Townsend's big eared bat (*Corynorhinus townsendii)* and Western mastiff bat (*Eumops perotis)* (both California Species of Special Concern), may forage near the proposed Project site; however, there is no suitable roosting habitat onsite.

Direct impacts could include mortality from grading and vegetation removal activities, disturbance from noise and vibration, impacts from man-made sources of light, and increased traffic. Indirect impacts to mammals could include alteration of soils, such as compaction that could preclude burrowing, the degradation of habitat through the changes in prey base, increased predation by coyotes both onsite and offsite, and the spread of exotic weeds. Increased noise from road traffic and humans onsite may cause kit fox to avoid some foraging areas and abandon dens.

The Applicant may seek a Section 2081 Incidental Take Permit from CDFW for desert tortoise and Mohave ground squirrel following further coordination with CDFW. The Applicant has coordinated with the United States Fish and Wildlife Service (USFWS), and USFWS has determined that an incidental take authorization for desert tortoise would not be required.

If construction, operation, and decommissioning of the proposed Project were to impact special-status species, these impacts would be considered significant. Therefore, mitigation measures BIO-1 through BIO-13, which would require pre-construction clearance surveys prior to ground disturbance, relocation of wildlife found within proposed Project impact areas during pre-construction surveys, daily monitoring, compensation for impacts to listed and special-status plant species, a biological monitor during site disturbing activities, implementation of environmental awareness training to educate proposed Project personnel regarding onsite plants and wildlife, implementation of site-wide best management practices (BMPs; i.e., restriction on open trenches and guidelines for refueling near drainage features), preparation of a kit fox and badger management plan, preparation of a raven management plan, controls for weed removal and prevention, and nesting bird surveys and avoidance measures for active nests. These measures would be implemented to mitigate these potentially significant impacts. Implementation of these mitigation measures would ensure that potential impacts to special-status plant and wildlife species are

reduced to a less than significant level during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

BIO-1 **Wildlife Pre-Construction Clearance Surveys and Biological Monitoring:** Prior to ground disturbance or vegetation clearing within the proposed Project site, a lead biologist shall conduct pre-construction clearance surveys for wildlife (no more than 7 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. The lead biologist must be approved by the City prior to the commencement of surveys. Wildlife found within the proposed Project site or in areas potentially affected by the proposed Project shall be relocated to the nearest suitable habitat that would not be affected by the proposed Project prior to the start of construction. Special-status species found within a proposed Project impact area shall be relocated by the lead biologist to suitable habitat outside the impact area prior to the start of ground-disturbing activities that may impact those species and subject to prior incidental take authorization if required. Nesting birds found within the proposed Project impact areas shall be subject to buffer requirements and additional conditions as detailed below in mitigation measure BIO-4.

Prior to initial ground disturbance, the Applicant shall provide written evidence to the City that the Applicant has retained a lead biologist(s) who meets the qualifications of an Authorized Biologist as defined by USFWS, with additional approval from CDFW (for state-listed species) to oversee compliance with the protection measures for desert tortoise and other special-status species. The lead biologist shall be onsite during all fencing and ground disturbance activities throughout the construction phase. The lead biologist(s) shall have the right to halt all activities that are in violation of the desert tortoise or other special-status species protection measures. Work shall proceed only after hazards to desert tortoise or other special-status species are removed, the species are allowed to leave, or are removed (if allowed), and the species is no longer at risk. The lead biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite. Construction activity may also be monitored by biological monitors under the lead biologist's supervision to ensure compliance with mitigation measures.

If required during pre-construction clearance surveys or required monitoring efforts, the lead biologist(s) shall relocate common and special-status species that enter the proposed Project site; some special-status species may require specific permits prior to handling or have established protocols for relocation. Records of all detection, capture, and release shall be reported to CDFW.

BIO-2 **Environmental Awareness Training:** Prior to initial ground disturbance, the Applicant shall submit proof to the City that all proposed Project personnel have attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the proposed Project team shall comply with. The training program shall include applicable measures established for the



proposed Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to the City.

BIO-3 **Implement Best Management Practices:** Prior to initial ground disturbance, the Applicant shall submit grading plans and specifications to the City, which indicate that the proposed Project shall implement the following BMPs:

- Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation.
- All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth dirt fill or wooden planks. Trenches shall also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped wildlife. Any wildlife discovered shall be allowed to escape before construction activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).
- Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians.
- Removal or disturbance of vegetation shall be minimized to the greatest extent feasible.
- Installation and maintenance of appropriate erosion and sediment control measures as needed throughout the duration of work activities (refer to mitigation measures in Section 3.10 (Hydrology and Water Quality) for additional information.
- Implementation of a 15 miles per hour (MPH) speed limit within all proposed Project areas.
- Vehicles shall not be driven or equipment operated in water covered or wetted portions of the stream channel or where riparian vegetation may be destroyed except as otherwise provided for in the permits/agreements from the CDFW, USACE, or Regional Water Quality Control Board (RWQCB).
- No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained onsite in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.



- The Applicant shall be required to construct all transmission facilities, towers, poles and lines in accordance with and comply with all policies set forth in the *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (Avian Power Line Interaction Committee) to minimize avian electrocutions as a result of the construction of the proposed Project. Details of design components shall be indicated on all construction plans and measures to comply with Avian Power Line Interaction Committee policies and guidelines shall be detailed in a separate attachment, all of which shall be submitted with the construction permit application. The Applicant shall be required to monitor for new versions of the Avian Power Line Interaction Committee guidelines and update designs or implement new measures as needed during project construction provided these actions do not require the purchase of previously ordered transmission line structures.

BIO-4 **Nesting Bird Surveys and Avoidance Measures:** Prior initial ground disturbance, the Applicant shall provide evidence to the City of the following. If initial site disturbance is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 through August 15 for raptors), breeding and nesting bird surveys shall be conducted by a qualified biologist no more than 3 days prior to the start of site disturbance. The qualified biologist must be approved by the City prior to the commencement of surveys. If construction activities carry over into a second nesting season(s), the surveys shall be completed annually until the proposed Project is complete. Surveys shall be conducted within 500 feet of all proposed Project activities.

The Applicant shall coordinate with USFWS and/or CDFW if endangered or threatened species are observed. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest, and no activities shall be allowed within the buffer(s) until the young have fledged from the nest or the nest fails; initial buffers for nesting raptors shall be 500 feet; a buffer of 0.25 mile shall be used for nesting prairie falcon unless the line-of-sight from the edge of development is obscured as determined by a qualified ornithologist. The prescribed buffers for common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors; for example, buffers for common passerines, often found to be habituated to human activity, may be adjusted down to 25 - 50 feet depending on the disturbance tolerance of each specific species. Buffer adjustments for listed and/or other special-status species shall be done in coordination with the USFWS and CDFW as applicable. The qualified biologist shall conduct regular monitoring of the nest to determine success or failure and to ensure that proposed Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails.

BIO-5 **Desert Tortoise and Mohave Ground Squirrel Protection Measures**: If a desert tortoise or Mohave ground squirrel is found on the proposed Project site during pre-construction



clearance surveys, the animal shall be relocated by the lead biologist, pursuant to prior incidental take authorization, to the nearest suitable habitat that would not be affected by the proposed Project prior to the start of construction. Desert tortoise shall be moved in accordance with a Desert Tortoise Translocation Plan (DTRP) prepared for the Project.

Prior to the issuance of a grading permit or any ground disturbance the Applicant shall retain a qualified wildlife biologist to prepare a comprehensive DTRP to be administered during the construction and operation of the project for the purpose of avoiding and minimizing impacts to this species. The DTRP shall be submitted to the City of Adelanto for review and approval and shall be updated and utilized for eradication and monitoring after construction. The DTRP shall include, but not be limited to, the following:

- Discussion of permanent Project fencing
- Discussion on temporary construction fencing
- Description of clearance surveys of permanent exclusion areas
- Transportation and release procedures.
- Schedule.
- Translocation/relocation areas.
- Monitoring and reporting.

If a desert tortoise or Mohave ground squirrel is found on the proposed Project site during the construction and decommissioning phases of the Project, all active construction or decommissioning activities shall cease in the vicinity of the animal. Work shall proceed only after the animal is allowed to leave the area and is no longer at risk, or the animal is relocated by the lead biologist in the same manner described above for desert tortoise and Mohave ground squirrel found during pre-construction clearance surveys.

In both cases, the lead biologist shall contact USFWS and CDFW (as applicable depending on the listing status of the species) and the Applicant shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. A report shall be prepared by the lead biologist to document the activities of the desert tortoise or Mohave ground squirrel within the site; all fence construction, modification, and repair efforts; and compliance with other measures recommended by the agencies. This report shall be submitted to wildlife and resource agency representatives and the City.

If a desert tortoise or Mohave ground squirrel is found on the proposed Project site during the operation and maintenance phase of the Project (when a lead biologist is not on site), all ground-disturbing operations and maintenance activities shall cease in the vicinity of the animal. The Applicant shall contact USFWS and CDFW (as applicable depending on the



listing status of each species) and confer with the agency(ies) regarding potential relocation of the animal and any additional avoidance, minimization, or mitigation measures that may be necessary. Work shall not resume in the vicinity of the animal until the relevant agencies have responded, and all recommended measures are taken. A report shall be prepared by the Applicant to document the activities of the desert tortoise or Mohave ground squirrel within the site; all fence construction, modification, and repair efforts; and compliance with other measures recommended by the agencies. This report shall be submitted to wildlife and resource agency representatives and the City.

BIO-6 **Compensation for Impacts to Desert Tortoise:** Since the proposed Project site is outside of mapped critical desert tortoise habitat, the Applicant shall acquire, protect, and transfer one acre (0.4 ha) of offsite habitat for every one acre of permanent habitat removal and 0.5 acre (0.2 ha) of offsite habitat for every one acre of mowed vegetation.; the Applicant shall also provide associated funding for the acquired lands as specified below. Habitat may be acquired through the purchase of credits through an established and approved mitigation bank (approved by the USFWS and/or CDFW depending in species focus) or, if compensation lands are acquired in fee title or in easement, the requirements for acquisition, initial improvement, and long-term management of compensation lands shall include all of the following:

- Selection Criteria for Compensation Lands. The compensation lands selected for acquisition in fee title or in easement shall:
    - be within the Western Mojave Desert Recovery Unit, with the potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, or other preserve lands;
    - provide habitat for desert tortoise with capacity to regenerate naturally when disturbances are removed;
    - be prioritized near larger blocks of lands that are either already protected or planned for protection; or which could feasibly be protected over the long-term by a public resource agency or a nongovernmental organization dedicated to habitat preservation;
    - be connected to lands with desert tortoise habitat equal to or better quality than the proposed Project site, ideally with populations that are stable, recovering, or likely to recover; and
    - not have a history of intensive recreational use or other disturbance that does not have the capacity to regenerate naturally when disturbances are removed or might make habitat recovery and restoration infeasible.



If the acquired lands or mitigation credits for other species, such as burrowing owl or Mohave ground squirrel, can be managed to support desert tortoise, the proposed mitigation lands could be aggregated so the purchase of mitigation lands for one species could cover all or a portion of the mitigation requirements for the remaining species. Mitigation lands shall not already be public land.

BIO-7 **Burrowing Owl Protection Measures:** The following measures shall be implemented during proposed Project construction, operation, and decommissioning with respect to burrowing owls:

- The lead biologist(s) shall be onsite during all construction activities in suitable burrowing owl habitat. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction clearance surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no more than 30 days prior to construction or prior to any desert tortoise exclusion fencing installation per City of Adelanto Sustainable Plan requirements. The survey methodology shall be consistent with the methods outlined in the California Department of Fish and Game (CDFG) Staff Report (CDFG 2012). Copies of the survey results shall be submitted to CDFW and the City.

- If no burrowing owls are detected, no further mitigation is necessary. If burrowing owls are detected, no ground-disturbing activities, such as road construction or installation of solar arrays or ancillary facilities, shall be permitted except in accordance with the staff report or by written authorization of CDFW staff. Burrowing owls shall not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by the lead biologist and approved by the applicable local CDFW office and submitted to the City. The plan shall adhere to the requirements set forth in the Burrowing Owl Mitigation Staff Report (CDFW 2012).

- In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.

- During construction activities, monthly and final compliance reports shall be provided to CDFW, the City, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed Project.

BIO-8 **Compensation for Impacts to Burrowing Owl:** Should burrowing owls be found onsite, compensatory mitigation for lost breeding or wintering habitat shall be implemented onsite or offsite in accordance with Burrowing Owl Mitigation Staff Report guidance and in consultation with CDFW. At a minimum, the following recommendations shall be implemented:

- Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions, including decompaction soil and revegetating.
- Permanent impacts to nesting, occupied and satellite burrows, and burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows, and burrowing owl impacted are replaced at a 1:1 ratio based on a site-specific analysis that shall include the following:
    - Permanent conservation of similar vegetation communities to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and nonbreeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.
- Permanently protect mitigation lands through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the proposed Project is located within the service area of a CDFW-approved burrowing owl conservation bank, the Applicant may purchase available burrowing owl conservation bank.

If the acquired lands or mitigation credits for other species, such as desert tortoise or Mohave ground squirrel, can be managed to support burrowing owl, the proposed mitigation lands could be aggregated so that the purchase of mitigation lands for one species could cover all or a portion of the mitigation requirements for the remaining species. Mitigation lands shall not already be public land.

BIO-9 **Compensation for Impacts to Mohave Ground Squirrel:** to mitigate potential impacts from construction, operation, and decommissioning of the proposed Project, the Applicant shall acquire habitat for Mohave ground squirrel or purchase credits through an approved mitigation bank based on the following ratios:

1. Two acre (0.8 ha) of offsite habitat of equal or better quality shall be preserved for every one acre of permanently removed habitat a permitted biologist (the biologist must hold a CDFW Scientific Collection Permit and a current Mohave Ground Squirrel Memorandum of Understanding) mapped as “High” or Moderate” suitability.
2. One acre of offsite habitat of equal or better quality shall be preserved for every one acre of permanently removed habitat a permitted biologist mapped as “Low” suitability.
3. 0.5 acre of offsite habitat of equal or better quality shall be preserved for every one acre of mowed vegetation a permitted biologist mapped as “High” or “Moderate” suitability.

4. No acres of offsite habitat shall be preserved for acres of mowed vegetation a permitted biologist mapped as “Low” suitability.

The selection criteria for compensation lands are the same as those presented above under Mitigation Measure BIO-6.

If the acquired lands or mitigation credits for other species, such as burrowing owl or desert tortoise, can be managed to support Mohave ground squirrel, the proposed mitigation lands could be aggregated so that the purchase of mitigation lands for one species could cover all or a portion of the mitigation requirements for the remaining species. Mitigation lands shall not already be public land.

BIO-10 **Swainson’s Hawk Surveys and Compensation for Loss of Foraging Habitat:** Per the City’s Comprehensive Sustainable Plan, Swainson’s hawk surveys shall be completed within 1.0 mile of the Project site in areas of suitable nesting habitat by a qualified biologist in accordance with the survey period and schedule guidelines described in the CDFG staff report (2010). At a minimum, surveys will be conducted during the two survey periods immediately prior to Project initiation. If avoidance of a known nest tree within the proposed Project site is determined infeasible and the tree must be removed, the Applicant will obtain a Management Authorization from CDFW prior to removal, which could include conditions required to compensate for the removal of the nest tree. The Management Authorization will specify the acceptable timeframe for removal, generally October 1 through February 1. If Project-related activities that could cause nest abandonment or forced fledging will occur within 0.5 mi of an active nest between March 1 and September 15, a qualified biologist will monitor the nest daily for signs of abandonment. If it is determined the nest has been abandoned, the Applicant will fund the captive rearing and release of the abandoned young. An alternative project-related activity buffer of less than 0.5 mi from active nests could be used if agreed upon by the Applicant, the City, and the CDFW.

If a nest is identified during surveys, impacts to foraging habitat will be mitigated by providing Habitat Management (HM) lands as described in the CDFG staff report (2010). Consistent with the City’s Comprehensive Sustainable Plan, the final acreage of HM lands provided will depend on the distance between the Project site and active nest and will be derived from the CDFW staff report (2010). If the acquired lands or mitigation credits for other species, such as desert tortoise or Mohave ground squirrel, can be managed to support foraging and/or nesting habitat for Swainson’s hawk, the proposed mitigation lands could be aggregated so that the purchase of mitigation lands for one species could cover all or a portion of the mitigation requirements for the remaining species. Mitigation lands shall not already be public land.

BIO-11 **Weed Control Plan:** Prepare and implement a Weed Control Plan. Prior to the issuance of a grading permit or any ground disturbance the Applicant shall retain a qualified restoration ecologist or biologist to prepare a comprehensive adaptive Weed Control Plan (WCP) to be administered during the construction and operation of the project for the purpose of invasive



weed abatement. The WCP shall be submitted to the City of Adelanto for review and approval and shall be updated and utilized for eradication and monitoring after construction. The WCP shall include, but not be limited to, the following:

1. Conduct a pre-construction survey for weeds in all areas proposed ground-disturbing activity, including, but not limited to, solar panel footing preparation and construction areas, assembly yards, access roads, and areas subject to grading for new or improved access roads. Weed populations that are rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database shall be mapped and described according to density and area covered. Areas identified to have weed infestations shall be treated prior to ground disturbance according to control methods detailed below and Best Management Practices for invasive weed populations.

2. Weed control treatments shall include all legally permitted herbicide, manual, and mechanical methods approved for application. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA), where concurrence has been provided by the City of Adelanto, and implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a scheduled rain event. Where manual and/or mechanical methods are used, disposal of the plant debris will take place at an appropriate offsite location. The timing of the weed control treatment shall be determined for each plant species with the goal of controlling populations before they start producing seeds. Consultation with a City qualified wildlife biologist or botanist shall be required prior to weed control treatments with the intent of avoiding any adverse impacts to plants and wildlife in the area.

For the preconstruction and construction of the project, measures to control the introduction and spread of noxious weeds in the project work area shall be taken as follows:

1. Surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required at all sites impacted by construction (array structures, staging areas, etc.), including access roads disturbed during the project from the time that ground disturbance begins. Surveying and monitoring for weed infestations shall occur annually. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or re-sprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.

Weed control efforts shall be timed annually to reduce noxious weed seed production, by conducting activities when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at an approved location. Weed control efforts shall commence in early spring (February), as indicated annually by a qualified restoration ecologist or biologist.



2. During project preconstruction and construction, all seeds and straw materials shall be weed-free rice straw, and all gravel and fill material shall be certified weed free by the County of San Bernardino Agriculture Commissioners' Offices. Any deviation from this will be approved by the City of Adelanto. All plant materials used during restoration shall be native, certified weed-free, and approved by the City of Adelanto.

3. During project preconstruction and construction, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) before and after entering the project area. Vehicles shall be cleaned at existing construction yards or legally operating car washes. The Applicant shall document that all vehicles have been washed prior to commencing project work. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all Project work areas. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill, unless otherwise approved by the City of Adelanto. A written daily log shall be kept for all vehicle/equipment/tool washing that states the date, time, location, type of equipment washed, methods used, and staff present. The log shall include the signature of a responsible staff member. Logs shall be available to the City of Adelanto for inspection at any time and shall be submitted to the City of Adelanto on a monthly basis.

4. During project operation and maintenance activities, clear and dispose of weeds in assembly yards, array footprints, access roads, staging areas, and any other disturbance areas in an approved method.

BIO-12 **Kit Fox and Badger Management Plan:** Prepare and implement a kit fox and badger management plan. Prior to the issuance of a grading permit or any ground disturbance the Applicant shall retain a qualified wildlife biologist to prepare a comprehensive Kit Fox and Badger Management Plan (KFBMP) to be administered during the construction and operation of the project for the purpose of avoiding and minimizing impacts to these species. The KFBMP shall be submitted to the City of Adelanto for review and approval and shall be updated as needed for monitoring after construction. The KFBMP shall include, but not be limited to, the following:

- Methods and guidance for focused pre-construction surveys.
- Procedures for active den and burrow monitoring.
- Details on excavation protocols for inactive or unoccupied dens.
- Passive relocation methodology.
- Canine distemper virus preventative measures
- Protocols for trapped, sick, injured, or dead desert kit foxes and American badgers
- Information on on-site materials storage procedures.

- Trash abatement program.
- Trenching guidelines.

BIO-13 **Raven Management Plan:** Prepare and implement a raven management plan. Prior to the issuance of a grading permit or any ground disturbance the Applicant shall retain a qualified biologist to prepare a comprehensive Raven Management Plan (RMP) to be administered during the construction and operation of the project for the purpose of eliminating or minimizing the availability of subsidies (i.e., human-provided organic refuse and food, open water sources, perch sites, roost sites, and nest sites) and the potential for common ravens to occupy the Project site and potentially prey on special-status wildlife. The RMP shall be submitted to the City of Adelanto for review and approval and shall be updated and utilized as needed for monitoring after construction. The RMP shall include, but not be limited to, the following:

- Information on Raven Biology/History (e.g., historical presence, roosting/nesting/perching behavior, etc.)
- Baseline/population data for the proposed Project area.
- Management Practices (e.g., trash abatement procedures, on-site speed limits, management of excess surface water, etc.)
- Adaptive management procedures.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated.

Special-status natural communities are defined by CDFG (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are generally evaluated under CEQA. Based on this ranking, one sensitive natural community, Joshua tree woodland, occurs within the proposed Project site.

Table 10 identifies the potential impacts to vegetation communities that are expected to occur from proposed Project implementation. For calculation purposes, the impacts detailed below include the maximum impact, per habitat type, for the various gen-tie routes; actual impact acreage may be less depending on the chosen route.



Table 9: Summary of Vegetation and Land Cover Type Impacts

Vegetation Community	Global Rank	State Rank	Acres within the proposed Project site	Maximum acres within the proposed Project
Creosote Bush-White Bursage Scrub *Lareea tridentate-Ambrosia dumosa* Shrubland Alliance	G5	S5	588.86	582.70
Allscale Scrub *Aitriplex polycarpa* Shrubland Alliance	G4	S4	410.68	410.68
Creosote Bush Scrub *Larrea tridentate* Shrubland Alliance	G5	S5	132.93	132.93
Joshua Tree Woodland *Yucca brevifolia* Woodland Alliance	G4	S3.2	53.26	49.21
White Bursage Scrub *Ambrosia dumosa* Shrubland Alliance	G5	S5	32.23	32.06
Developed/Disturbed	N/A	N/A	59.68	25.10
Fourwing Saltbrush Scrub *Atriplex canescens* Shrubland Alliance	G5	S4	9.39	9.39
Nevada Joint Fir Scrub *Ephedra nevadensis* Shrubland Alliance	G5	S4	3.05	3.05
Mojave-Sonoran Desert Dunes *Dicoria canescens – Abroia villosa – Panicum urvilleanum* Sparsely Vegetated Alliance	G4	S3.2	1.60	1.60
Rubber Rabbitbrush Scrub *Ericameria nauseosa* Shrubland Alliance	G5	S5	0.35	0.35
Red Brome or Mediterranean Grass Grasslands *Bromus rubens – Schismus (arabicus, barbatus)* Herbaceous Semi-Natural Alliance	N/A	N/A	2.30	2.30

Note:
* Includes solar site and maximum impact, per habitat type, for all of the proposed gen-tie routes.

Construction of the proposed Project would remove vegetation, alter soil conditions, and have the potential to result in the loss of native seed banks within portions of the proposed Project site. Construction activities could also result in the spread of noxious weeds within the proposed Project site and adjacent habitats. During O&M of the proposed Project, impacts would occur during routine maintenance activities and could include trampling or crushing of native vegetation by foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.



Mitigation Measure BIO-14 below includes mitigation for the impacts to Joshua tree at the proposed Project site. In addition, BIO-1, BIO-2, and BIO-3 would provide for onsite biological monitoring, require environmental awareness training for all project personnel, and require implementation of BMPs (i.e., establishment of construction exclusion zones). Implementation of these measures would ensure that potential impacts to sensitive habitats are reduced to a less than significant level during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

BIO-1: Wildlife Pre-Construction Clearance Surveys and Biological Monitoring

BIO-2: Environmental Awareness Training

BIO-3: Implement Best Management Practices (BMPs)

BIO-14: Joshua Tree Surveys and Compensation for Specimen Tree Removal: Prior to any ground disturbing activities, the Applicant shall have a qualified biologist quantify and document the location of all "specimen" Joshua trees, as defined in San Bernardino County Development Code 88.01, within the proposed Project site. Specimen Joshua trees shall meet one or more of the following criteria: 1) a circumference measurement equal to or greater than 50 inches measured at 4.5 ft above natural grade; 2) total tree height of 15 feet or greater; 3) tree possesses a bark-like trunk; and 4) a cluster of 10 or more individual trees, of any size, growing in close proximity to each other. Survey results, maps, and accompanying photographs of all specimen trees identified within the proposed Project site will be submitted to the City. For all specimen trees that cannot be avoided, the Applicant will provide compensatory off-site mitigation at a ratio of 1:1 to protect an equivalent number of specimen trees in perpetuity. The final acreage of mitigation land acquired to compensate for specimen tree removal will depend on the density of specimen trees on the mitigation land. If the acquired lands for other species, such as desert tortoise, Mohave ground squirrel, or Swainson's hawk, can be managed to also protect specimen Joshua trees, the proposed mitigation lands could be aggregated so that the acquisition of mitigation lands for one species could cover all or a portion of the mitigation requirements for the remaining species. Mitigation lands shall not already be public land.

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Less Than Significant with Mitigation Incorporated.

The proposed Project area contains USACE non-wetland (ephemeral desert washes) WOTUS and CDFW jurisdictional waters. No portion of the proposed Project area meets the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils), and no surface water was present during the survey. Impacts to jurisdictional waters from construction of the

proposed Project are detailed below. For calculation purposes, the impacts detailed below conservatively reflect the maximum potential impact, per jurisdiction type, for the various gen-tie routes and full site build-out. Actual impact acreage may be less depending on the chosen gen-tie route and site configuration, which may be refined through coordination with USACE, RWQCB, and CDFW during the regulatory permitting processes (as described below).

- Following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, the proposed Project would impact a maximum of approximately 0.98 acre (all within the PV solar project site) of non-wetland WOTUS out of the 1.21 acres within the JDSA, subject to USACE verification.
- Following an assessment of hydrology, the presence of bed and bank, and the extent of desert wash associated vegetation, a total of approximately 10.98 acres (10.72 acres on the PV solar project site and a maximum impact of 0.26 acres within the proposed gen-tie routes) of CDFW jurisdictional waters would be impacted by the proposed Project out of the 16.57 acres within the JDSA.

The importance of intermittent and ephemeral streams to wildlife in arid environments is well known (Leidy et al. 2008). Ephemeral drainages, such as the desert washes and playas within the proposed Project site, provide unique habitat that is distinct from the surrounding uplands, providing more continuous vegetation cover and microtopographic diversity than the surrounding uplands. Ephemeral and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity (Levick et al. 2008). They have higher moisture content and provide shade and cooler temperatures within the channel. In cases where the habitat is distinct in species composition, structure, or density, wash communities would provide habitat values not available in the adjacent uplands. Direct impacts to WOTUS and CDFW jurisdictional waters would include the removal of native vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Potential indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native and invasive plant species.

Proposed Project-related impacts to jurisdictional waters could be considered significant. As required by law, however, the Applicant would comply with state and federal regulations regarding conducting proposed Project activities in water courses and habitats under the jurisdiction of the CDFW and USACE. In compliance with state and federal regulations, the Applicant would obtain permits pursuant to Sections 401 and 404 of the Clean Water Act, and Fish and Game Code Section 1600 et seq. to the extent required by the Project. The RWQCB published new regulations governing the protection of wetlands and state waters on May 28, 2020. However, these regulations do not apply to an aquatic features within the proposed Project site as none of the identified features meet the wetland criteria/definition.

Obtaining the required regulatory permits, in conjunction with worker environmental awareness training (BIO-2) and best management practices (BIO-3) would ensure that potential impacts to jurisdictional features are reduced to a less than significant level during the construction phase, operations phase, and the decommissioning phase



Mitigation Measures

BIO-1 Wildlife Pre-Construction Surveys and Biological Monitoring

BIO-2 Environmental Awareness Training

BIO-3 Implement Best Management Practices (BMPs)

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant with Mitigation Incorporated.

Wildlife movement corridors are defined on both a regional and on a local scale. Regionally, the proposed Project lies within a large area between the San Gabriel Mountains and Edwards Air Force Base, two core habitat blocks (i.e., movement corridors). According to the analysis in *A Linkage Network for the California Deserts*, there are three low-cost corridors for American badger to the north, east, and west of the proposed Project and one low-cost corridor for desert kit fox and desert tortoise to the north of the proposed Project (Penrod et.al. 2012). The proposed Project is centrally located among these corridors but is not within or adjacent to any of them. The Desert Renewable Energy Conservation Plan (DRECP) Gateway shows that the majority of the Project site occurs on lands with mostly low to very low terrestrial landscape intactness; some areas in the northern portions of the Project site were ranked as moderately low (2020). The lower the ranking the higher the disturbance from anthropogenic sources; therefore, most of the project site has been mapped as highly disturbed.

This region of the Mojave Desert is generally open but fragmented by development to the south. This development forms barriers to movement and includes infrastructure such as highways, housing developments, and a few solar facilities. These barriers inhibit the movement of some species that have limited home ranges or low dispersal ability and may reduce the movement of wide-ranging species such as American badger, desert kit fox, and coyote (*Canis latrans*).

On a local basis, the proposed Project site currently provides unrestricted wildlife movement as there are no fences or other obstructions to wildlife passage. Migratory birds may use the proposed Project site and vicinity for breeding, nesting, and foraging, or as transient rest sites during migration flights. Desert kit fox, American badger, and coyote may travel across the proposed Project site in search of food and to access higher-quality habitat in the area for food, mates, and refuge.

Construction of the proposed Project is not expected to result in substantial adverse impacts to wildlife movement on a regional scale. The proposed Project will incorporate wildlife-friendly fencing design features in accordance with the Project's Incidental Take Permit. Within fenced portions of the proposed Project site that occur in the 100-year flood plain, flow-through fencing will be used that will allow for passage of larger debris and subsequently allow for wildlife passage. On a local scale, the proposed Project may displace some species or restrict movement for species with low dispersal abilities such as desert tortoise; there are no known native wildlife nursery sites within the Project area. Direct impacts of



the proposed Project would include the placement of physical structures such as battery storage facilities, fencing, or other facilities that block or impede movement. Ground-disturbing activity, including solar array installation and construction, grading of new access roads, and use or improvement of existing access roads, would also be expected to interfere with terrestrial wildlife movement during construction. Construction may also affect wildlife in adjacent habitats by interfering with movement patterns or causing animals to temporarily avoid areas adjacent to the construction zone. More mobile species, such as birds and larger mammals, would likely disperse into adjacent habitat areas during the land clearing and grading phases associated with solar array installation. Implementation of mitigation measures BIO-1 through BIO-3 would provide for biological monitoring, environmental awareness training, and BMPs to minimize barriers to wildlife during construction of the proposed Project. Although species would be disrupted during certain activities, with implementation of the above mitigation measures, impacts to migratory corridors from the proposed Project would be reduced to a less than significant level during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Surveys and Biological Monitoring

BIO-2 Environmental Awareness Training

BIO-3 Best Management Practices

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant with Mitigation Incorporated.

The Adelanto North 2035 Comprehensive Sustainable Plan contains the City's goals, objectives, policies, and specific actions that provide the framework for achieving the community's long-term vision (Adelanto 2014). The plan was adopted on August 27, 2014 and includes the following elements or plans: land use and community design, economic development, mobility, parks and recreation, open space conservation, public facilities and infrastructure, and public health and safety. The section of the plan on open space and conservation specifies goals, policies, and programs related to biological resources. Goals and policies that relate to biological resources at, around, and relevant to the proposed Project are listed below.

Goal OS 2: Open spaces, sensitive biological resources, native habitat, and vegetation communities that support wildlife species are identified, protected, and restored.

Policy OS 2.3: Ensure that new development and major transportation projects minimize encroachment into sensitive desert habitats and minimize direct or indirect impact to sensitive biological resources while optimizing the potential for mitigation.

Meeting the goals and policies of the Open Space and Conservation Element of the Adelanto North 2035 Comprehensive Sustainable Plan is achieved through compliance with requirements set forth in

detailed implementing programs specific to individual species and/or specific survey requirements. Requirements in each of the implementing programs applicable to the proposed Project have either been completed to support the CEQA process or incorporated into proposed mitigation measures to reduce impacts to biological resources. Dates of completion (if already completed to support the CEQA process) of applicable proposed mitigation measures are listed beside each of the applicable implementing programs listed below.

Implementing Programs

- Program OS-21 Biological Assessments (Completed in early 2019)
- Program OS-22 Desert Tortoise Protection (Mitigation Measures BIO-5 [Desert Tortoise and Mohave Ground Squirrel Protection Measures] and BIO-6 [Compensation for Impacts to Desert Tortoise])
- Program OS-23 Swainson's Hawks Protection (mitigation measure BIO-10 [Swainson's Hawk Surveys and Compensation for Loss of Foraging Habitat])
- Program OS-24 Burrowing Owl Protection (mitigation measures BIO-7 [Burrowing Owl Protection Measures] and BIO-8 [Compensation for Impacts to Burrowing Owl])
- Program OS-25 Habitat Suitability (suitability assessment completed spring/summer 2019, mitigation measures BIO-1 [Wildlife Pre-Construction Clearance Surveys and Biological Monitoring], BIO-2 [Environmental Awareness Training], BIO-3 [Implement Best Management Practices, BIO-4 [Nesting Bird Surveys and Avoidance Measures], and BIO-5 [Desert Tortoise and Mohave Ground Squirrel Protection Measures])
- Program OS-26 Nest Surveys (mitigation measure BIO-4 [Nesting Bird Surveys and Avoidance Measures])
- Program OS-27 Special-Status Plant Species Surveys (completed spring/summer 2019)

The Applicant has already completed some requirements set forth in the above implementing programs or have incorporated requirements into proposed mitigation measures. Implementation of the above measures to address other potential impacts would also serve to prevent conflicts with local policies or ordinances protecting biological resources during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Surveys and Biological Monitoring

BIO-2 Environmental Awareness Training

BIO-3 Best Management Practices

BIO-4 Nesting Bird Surveys and Avoidance Measures



BIO-5 Desert Tortoise and Mohave Ground Squirrel Protection Measures

BIO-6 Compensation for Impacts to Desert Tortoise

BIO-7 Burrowing Owl Protection Measures

BIO-8 Compensation for Impacts to Burrowing Owl

BIO-9 Compensation for Impacts to Mohave Ground Squirrel

BIO-10 Swainson's Hawk Surveys and Compensation for Loss of Foraging Habitat

BIO-14 Joshua Tree Preservation Plan

f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

No Impact.

All applicable adopted habitat conservation plans, natural community conservation plans, or other conservation plans have been reviewed for consistency with the proposed Project. The review found that the City is a collaborator and participant in the *West Mojave Plan Habitat Conservation Plan* (WMPHCP) in reference to the following species:

- Burrowing owl: Requirements in the WMPHCP specific to measures for burrowing owl within the City include survey requirements, eviction or relocation of owls, and reporting information. These requirements are met or exceeded with the mitigation measures detailed above for the proposed Project and include BIO-7 (Burrowing Owl Protection Measures) and BIO-8 (Compensation for Impacts to Burrowing Owl).

- Desert Tortoise: Portions of the WMPHCP in reference to desert tortoise within the City and applicable to the proposed Project include guidance for utility construction and maintenance and survey protocols/methods. Mitigation measures for the proposed Project, including BIO-5 (Desert Tortoise and Mohave Ground Squirrel Protection Measures) and BIO-6 (Compensation for Impacts to Desert Tortoise) include survey requirements that meet or exceed those detailed in the WMPHCP and provide for protection measures during construction.

- Ferruginous Hawk: Although not expected to occur within the proposed Project area, as a participant in the WMPHCP, the City is responsible for implementing measures related to Ferruginous hawk (*Buteo Regalis*). These include raptor-safe electrical distribution lines and retrofitting problem poles. The proposed Project would comply with these items through the implementation of mitigation measure BIO-3 (Implement Best Management Practices), which requires the Applicant to construct all transmission facilities, towers, poles, and lines in accordance with and in compliance with all policies set forth in the *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in*

2006 (Avian Power Line Interaction Committee) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (Avian Power Line Interaction Committee).

- Mohave Ground Squirrel: Portions of the WMPHCP in reference to Mohave ground squirrel within the City and applicable to the proposed Project include guidance for take/avoidance measures and survey protocols/methods. Mitigation measures for the proposed Project, including BIO-5 (Desert Tortoise and Mohave Ground Squirrel Protection Measures) and BIO-9 (Compensation for Impacts to Mohave Ground Squirrel), include survey requirements that meet or exceed those detailed in the WMPHCP and provide for avoidance/protection measures during construction.
- Prairie Falcon: Although suitable nesting habitat does not occur within the proposed Project area, the City is required to comply with measures outlined in the WMPHCP pertaining to nest buffers. These requirements are detailed in mitigation measure BIO-4 (Nesting Bird Surveys and Avoidance Measures) for the proposed Project.

Requirements in the WMPHCP for the City that are specific to the species noted above are met or exceeded by mitigation measures presented for the proposed Project. Therefore, the proposed Project would not conflict with any conservation plan, and there would be no impact during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

Based on the analysis presented above, significant direct or construction related impacts to special-status plants and wildlife, and jurisdictional waters are not expected to occur or have been mitigated to less than significant levels. Operational impacts would not result in additional significant impacts. There are no known bird or bat migratory corridors that would be directly impeded by the proposed Project. Large concentrations of migrants are not known to utilize any specific portion of the proposed Project site and construction and O&M activities are not expected to preclude use of the area. Migrating birds would have access to suitable habitat within the adjacent areas. Although species would be disrupted during certain activities impacts to migratory corridors from the proposed Project would not be significant. Impacts to sensitive wildlife, sensitive plants, jurisdictional waters and wildlife corridors, when combined with past, present, and probable future projects, would not be cumulatively considerable.

However, the proposed Project would result in direct impacts to native vegetation known to support-special status plants and wildlife. Although impacts to native habitat, resulting from the proposed Project, would be mitigated to less than significant levels, the overall loss of these communities within California, and their suitability to support several special- status species, the loss of this habitat when combined with past, present, and probable future projects could be a cumulatively significant impact if not mitigated.

Implementation of Mitigation Measures BIO-1 through BIO-14 would reduce the proposed Project's contribution of cumulative impacts. These measures include worker education describing the sensitive biological resources that occur on the proposed Project site, implementation of BMPs to minimize and avoid impacts, pre-construction surveys, nesting bird buffer protocols, conducting biological monitoring during ground-disturbing and other construction-related activities, and providing habitat mitigation for



certain plant and wildlife species to offset habitat loss. Implementation of these mitigation measures and others would reduce the proposed Project's contribution to cumulative impacts such that they would not be cumulatively considerable.



3.5 CULTURAL RESOURCES

3.5.1 Setting

In July 2019, BCR Consulting (BCR) under contract to the Applicant completed a Phase I Cultural Resources Assessment of the Project which included a records review and archaeological field survey. Prior to conducting fieldwork, on January 7, 2019, BCR conducted a records search at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS). This archival research reviewed the status of all recorded historic and prehistoric cultural resources and survey and excavation reports completed within one mile of the current Project. Additional resources reviewed included the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and documents and inventories published by the California Office of Historic Preservation. These included the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

The records search revealed that 34 cultural resource studies and 32 cultural resources were recorded within one mile of the Project site. Of the previous studies, 15 assessed portions of the Project site, and three cultural resources (all prehistoric lithic scatters) were recorded within the Project boundaries.

BCR's field investigation resulted in the identification of 65 cultural resources, including seven historic-period archaeological sites, 15 prehistoric archaeological sites, one multi-component site, and 42 isolated artifacts (two historic-period and 40 prehistoric). BCR was then contracted to evaluate the finds for inclusion in the NRHP and CRHR based on a site testing and evaluation plan drafted in consultation with representatives of San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, and the City of Adelanto.

Following completion of the testing program, BCR recommended that eight of the prehistoric sites within the Project area, all lithic scatters, are eligible for CRHR listing, while the remaining sites and 42 isolated finds initially recorded were not significant.

The cultural setting of the Mojave Desert can generally be organized into Prehistoric, Ethnographic, and Historic periods.

Prehistory

The prehistoric cultural setting of the Mojave Desert has been organized into many chronological frameworks (see Warren and Crabtree 1986; Bettinger and Taylor 1974; Lanning 1963; Hunt 1960; Wallace 1958, 1962, 1977; Wallace and Taylor 1978; Campbell and Campbell 1935), although there is no definitive sequence for the region. Generally, the prehistoric period in the area is grouped into the following sub-divisions (from BCR 2019):

Paleoindian (12,000 to 10,000 BP) and Lake Mojave (10,000 to 7,000 BP) Periods.

Climatic warming characterizes the transition from the Paleoindian Period to the Lake Mojave Period. This transition also marks the end of Pleistocene Epoch and ushers in the Holocene. The Paleoindian Period has been loosely defined by isolated fluted (such as Clovis) projectile points, dated by their association with similar artifacts discovered in-situ in the Great Plains (Sutton 1996:227-228).

Pinto Period (7,000 to 4,000 BP).

The Pinto Period has been largely characterized by desiccation of the Mojave. As formerly rich lacustrine environments began to disappear, the artifact record reveals more sporadic occupation of the Mojave, indicating occupants' recession into the cooler and more moist fringes (Warren 1984). Pinto Period sites are rare and are characterized by surface manifestations that usually lack significant in-situ remains. Artifacts from this era include Pinto projectile points and a flake industry similar to the Lake Mojave tool complex (Warren 1984), though use of Pinto projectile points as an index artifact for the era has been disputed (see Schroth 1994). Milling stones have also occasionally been associated with sites of this period (Warren 1984).

Gypsum Period. (4,000 to 1,500 BP).

A temporary return to moister conditions during the Gypsum Period is postulated to have encouraged technological diversification afforded by the relative abundance of resources (Warren 1984:419-420; Warren and Crabtree 1986:189). Lacustrine environments reappear and begin to be exploited during this era (Shutler 1961, 1968). Concurrently a more diverse artifact assemblage reflects intensified reliance on plant resources. The new artifacts include milling stones, mortars, pestles, and a proliferation of Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner- notched dart points (Warren 1984; Warren and Crabtree 1986).

Saratoga Springs Period (1,500 to 800 BP).

During the Saratoga Springs Period regional cultural diversifications of Gypsum Period developments are evident within the Mojave. Basketmaker III (Anasazi) pottery appears during this period and has been associated with turquoise mining in the eastern Mojave Desert (Warren and Crabtree 1986:191). Influences from Patayan/Yuman assemblages are apparent in the southern Mojave and include buff and brown wares often associated with Cottonwood and Desert Side-notched projectile points (Warren 1984:423). Obsidian becomes more commonly used throughout the Mojave and characteristic artifacts of the period include milling stones, mortars, pestles, ceramics, and ornamental and ritual objects. More structured settlement patterns are evidenced by the presence of large villages, and three types of identifiable archaeological sites (major habitation, temporary camps, and processing stations) emerge (McGuire and Hall 1988). Diversity of resource exploitation continues to expand, indicating a much more generalized, somewhat less mobile subsistence strategy.

Shoshonean Period (800 BP to Contact).

The Shoshonean period is the first to benefit from contact-era ethnography –as well as be subject to its inherent biases. Interviews of living informants allowed anthropologists to match artifact assemblages and particular traditions with linguistic groups and plot them geographically (see Kroeber 1925; Gifford 1918;



Strong 1929). During the Shoshonean Period continued diversification of site assemblages, and reduced Anasazi influence both coincide with the expansion of Numic (Uto-Aztecan language family) speakers across the Great Basin, Takic (Uto-Aztecan language family) speakers into southern California, and the Hopi across the Southwest (Sutton 1996). Hunting and gathering continued to diversify, and the diagnostic arrow points include desert side-notch and cottonwood triangular. Ceramics continue to proliferate, though are more common in the southern Mojave during this period (Warren and Crabtree 1986). Trade routes have become well established across the Mojave, particularly the Mojave Trail, which transported goods and news across the desert via the Mojave River. Trade in the western Mojave was more closely related to coastal groups.

Ethnography

Serrano.

The Uto-Aztecan “Serrano” people occupied the western Mojave Desert periphery. Kroeber (1925) applied the generic term “Serrano” to four groups, each with distinct territories: the Kitanemuk, Tataviam, Vanyume, and Serrano. Only one group, in the San Bernardino Mountains and West-Central Mojave Desert, ethnically claims the term Serrano. "The Serrano resided in an area that extended east of the Cajon Pass, located in the San Bernardino Mountains, to Twenty-nine Palms, the north foothills of the San Bernardino Mountains and south to include portions of the Yucaipa Valley" (Bean and Smith 1978:570). Both the Serrano and Cahuilla utilized the western Mojave region seasonally.

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period.

The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period.

In 1821, Mexico overthrew Spanish rule and the missions became property of the Mexican government. By 1833, the Mexico passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).



American Period.

The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (ibid.; Cleland 1941).

Local Sequence.

Adelanto, California is a charter city located west of Victorville. In 1915, Earl Homes Richardson sold his patent for the Hotpoint Electric Iron for $75,000 and used the money to purchase land that would later become Adelanto. A successful industrialist, Mr. Richardson envisioned developing his land as a master-planned community for World War I veterans affected by respiratory illnesses. He subdivided the property into one-acre tracts in 1917 (Gutglueck 2015; Gudde 1962:3). His vision was never realized, as veterans did not wish to live so remotely. The land did prove useful for farming, and the Mojave River watershed supported the cultivation of apples, pears, plums, grapes and alfalfa. Turkeys were also raised, and a packing plant was built to dress the turkeys for market (San Bernardino County Sun [SBCS] 14 Jul 1963:46). A small farming community took shape and an adobe schoolhouse was constructed. While farmers believed the water source was inexhaustible, excessive usage and several dry years combined with the Great Depression to force most orchards out of business. Poultry ranches sprang up to replace the defunct orchards and persisted until World War II, when the economy shifted in support of the war effort (Gutglueck 2015).

George Air Force Base, originally named the Victorville Army Airfield, was subsequently constructed between Adelanto and Victorville. Consistently suitable weather, low air-traffic, and a reliable workforce made for amenable conditions. The main function of the base was to provide tactical support for warplane missions in the Pacific Theater and to serve as a training center for pilots and crew. It was closed temporarily after World War II, then reopened at the onset of the Korean War in 1950. Due to military employment and services, Adelanto grew into a “community services district” and more base personnel were housed there than any other local City. Expansion of George Air Force Base combined with growing cement factories in the neighboring communities of Victorville and Oro Grande to form relatively stable local economy, and Adelanto businesses and municipal services proliferated.

Local Mining History.

Although Adelanto’s economic development is closely associated with agriculture and the military, the western Mojave (including some areas on and surrounding the project site) has been subject to many

mining prospects since the 19th century. Mormon pioneers bound for the gold fields of northern California, first discovered gold near Salt Springs on the Mojave River Trail in 1849. They exploited gold from a quartz vein discovered in a nearby canyon but abandoned the site within a year. Repeated efforts in the Salt Springs area resulted in varying levels of success, but hazards from working such a remote location always resulted in abrupt abandonment (Walker 1987:142). The sporadic Salt Springs finds prompted miners to stake claims elsewhere in the Mojave and ore was discovered in many locations some distance east of the project site, particularly in Stedman and in the Providence, New York, Whipple, Turtle, and Sacramento Mountains. (Feller 2017b). Gold and silver have been mined in the Adelanto area from discoveries made between 1880 and 1890, but most of these were exhausted by 1931. Other local operations have produced tungsten, lead, zinc, copper, limestone, quartzite, sericite quartz, and clay. The Victor Valley Land and Gas Corporation excavated an oil and gas prospect at a total depth of 3,216 feet which bottomed in granite. Although field observations did identify two prospect pits within the project site (see Results/Field Survey), these were not recorded in United States Geological Survey maps and were probably not productive (Diblee 1960).

Site Evaluations

CEQA (PRC Chapter 2.6, Section 21083.2 and CCR Title 145, Chapter 3, Article 5, Section 15064.5) calls for the evaluation of impacts to historic resources. The California Office of Historic Preservation states that any physical evidence of human activities over 45 years old merits recordation, allowing practitioners to exercise professional judgement in excluding certain items that clearly lack significance (California Office of Historic Preservation 1995:2). The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the CEQA Guidelines and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, National Register, or designation under a local ordinance. Following the Phase I assessment, a testing and evaluation plan was developed by BCR in addition to a research design to determine regional themes and corresponding site-specific qualities needed for each site to meet CRHR listed below.

California Register of Historical Resources

The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California, or national history;

3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; and/or

4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.



In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association. Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Research Themes and Pertinent Questions for Prehistoric Artifact Scatters

Prehistoric period research domains include:

- Prehistoric Chronology
- Subsistence Strategies
- Settlement Patterning
- Exchange/Trade
- Tool Technology

Research Questions.

Research questions that were applied to the prehistoric period sites focus on temporal period, economics, site function, and site behavior and included:

- When was this site occupied? Temporal characteristics of the site that might contribute to a detailed model of occupation dates and socio-functional activities.

- What types of resource procurement was occurring on or near the site? Understanding how groups survive over time is vital to analyzing economic function. Prehistoric occupations are not expected to be long-term as no reliable water sources are known within the project site.

- What subsurface features exist and what are their potential functions? Subsurface features can provide information relating to more precise temporal associations and subsistence strategies.

- What was the aboriginal subsistence strategy during the Prehistoric Period?

- Does data indicate prehistoric continuity of land use pointing to potential for trade routes or linkage of natural features that would contribute to understanding of the overall pattern of aboriginal use of landscapes?

Data Requirements.

The data required to address the above questions would be derived from datable materials, most specifically those containing organic residues. Formal lithic tools (specifically projectile points) can provide relative dates determined through stylistic attributes and comparison with accepted regional lithic series. Obsidian tools and debitage can yield dates through hydration studies. Dating of obsidian assemblages can be placed into regional relative chronological series and provide relative dating. Attributing potential functions to specific sites would require the presence of in-situ prehistoric remains, such as identifiable features that could be associated with specific activities.

Research Themes, Questions and Data Requirements for Historic-Period Sites

The historic-period sites were evaluated for significance as rural properties under California Register Criterion D. The following themes and questions were used in evaluation of the historic period sites:

Site Structure and Land Use Patterns.

Research questions designed to address the historic period context included:

- What do the structures, features, and layout of the property reveal about approaches used in mining?
- Is continuity evident in those approaches or did they change over time, and why?

Data requirements for this theme include physical evidence of environmental adaptations, property records, oral histories, gray literature comparisons to similar properties, and artifacts in identifiable features that could be associated with specific activities.

Economic Strategies.

This theme addresses economic strategies and decisions for producing income or subsistence from the property. Research questions included:

- To what extent did outside factors influence choices in land use?
- Would differing economic strategies influence material remains at an individual site?

Data requirements included the presence of identifiable refuse-filled features with depositional integrity and identifiable associations. Review of census and assessment literature, legal records, oral histories, secondary and gray literature were also used to determine if the historic period sites contained data to address the questions identified.

Eligible Sites

BCR applied the above research questions and data requirements to the recorded sites following implementation of the testing and evaluation program (BCR 2020). BCR's analysis determined that of the 64 originally recorded cultural resources, 42 isolates did not qualify as eligible resources, and application of site specific eligibility criteria determined that only eight resources, all prehistoric lithic scatters (archaeological sites), could provide information under CRHR Criterion 4 for the information they contain regarding potential dating and sourcing of obsidian flakes. Hydration analysis of obsidian can address the time period of use occupation, while obsidian sourcing can provide information related to trade patterns. The eight sites determined as archaeological resources as defined by CEQA are:

Site Number	Site Type	CRHR Recommendation
SPO1901-P-1	Low-Density Prehistoric Lithic Scatter	Presumed Eligible
P-36-13363	Low-Density Prehistoric Lithic Scatter	Eligible
P-36-13361	Low-Density Prehistoric Lithic Scatter	Eligible
SPO1901-P-6	Low-Density Prehistoric Lithic Scatter	Eligible
SPO1901-P-7	Low-Density Prehistoric Lithic Scatter	Eligible
SPO1901-P-10	Low-Density Prehistoric Artifact Scatter	Presumed Eligible
SPO1901-P-13	Prehistoric Artifact Scatter	Eligible
SPO1901-P-14	Low-Density Prehistoric Lithic Scatter	Eligible

3.5.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion of Impacts

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact.

There are no historical resources present, therefore, there will not be any impacts to historical resources as defined by CEQA §15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant with Mitigation Incorporated.

Eight archaeological resources (prehistoric lithic scatters) within the Project area are recommended as eligible for the CRHR.

Site Number	Site Type	California Register Recommendation	Recommendation
SPO1901-P-1	Low-Density Prehistoric Lithic Scatter	Presumed Eligible	Preservation in Place
P-36-13363	Low-Density Prehistoric Lithic Scatter	Eligible	Preservation in Place
P-36-13361	Low-Density Prehistoric Lithic Scatter	Eligible	Preservation in Place
SPO1901-P-6	Low-Density Prehistoric Lithic Scatter	Eligible	Preservation in Place
SPO1901-P-7	Low-Density Prehistoric Lithic Scatter	Eligible	Preservation in Place
SPO1901-P-10	Low-Density Prehistoric Artifact Scatter	Presumed Eligible	Preservation in Place
SPO1901-P-13	Prehistoric Artifact Scatter	Eligible	Preservation in Place
SPO1901-P-14	Low-Density Prehistoric Lithic Scatter	Eligible	Preservation in Place

The City and the Applicant have decided to avoid these resources and prevent all forms of disturbance within their mapped boundaries (CULT-1). CULT-2 requires the development and implementation of a Cultural Resources Monitoring Plan (CRMP) prior to construction that contains specific measures designed to address and minimize potential impact to potential resources that may be discovered during construction. CULT-3 requires construction worker training that explains the mitigation measures and ways to prevent accidental impacts to resources. Development and implementation of CULT-1, CULT-2 and CULT-3 are designed to reduce impacts to less than significant.

Mitigation Measure

CULT-1 Avoidance of the Eight Reported Significant Archaeological Sites

Archaeological sites SPO1901-P-1, P-36-13363, P-36-13361, SPO1901-P-6, SPO-1901-7, SPO-1901-10, SPO-1901-13, and SPO-1901-14 shall be avoided. Prior to construction, the mapped boundaries of the eight sites, as reported by BCR and reviewed by consulting tribes, shall be delineated and marked as Environmentally Sensitive Areas. No disturbance shall occur within the site boundaries including construction vehicle traffic.

CULT-2 Development and Implementation of a Cultural Resources Monitoring Plan

Following final project design and prior to construction, a Cultural Resources Monitoring Plan (CRMP) shall be prepared by a qualified archaeologist who meets the Secretary of Interior's Professional Qualification Standards in Archaeology. The CRMP will be developed in



consultation with City of Adelanto and the Applicant and incorporate input received from Native American tribes who participated in AB 52 consultation.

The CRMP shall include:

- **Project Specific Site Monitoring Requirements** that delineate where monitoring will occur, what activities will require monitoring, and necessary qualifications of monitoring personnel.
- **Unexpected Site Discovery Protocols** containing criteria for determining significance of potential resources discovered during construction, temporary stop work and diversion procedures, treatment measures for potentially significant resources, and time limits regarding developing and implementing treatment measures.
- **Human Remains Discovery Protocols** that detail procedures associated with and timing of requirements in CULT-4 as well as potential options for reburial in an appropriate location.
- **Reporting Requirements** following the completion of construction monitoring detailing the results of monitoring and any treatment measures implemented.

CULT – 3 Worker's Environmental Awareness Program (WEAP)

A qualified archaeologist shall be retained to prepare a cultural resource focused WEAP training presentation that shall be given to all ground disturbing construction personnel to minimize harm to the previously identified significant archaeological sites and any undiscovered archaeological resources. Topics to be included for WEAP training will include, but not limited to:

- **Roles, Responsibility and Authority of Archaeological Monitors**
- **Roles, Responsibility and Authority of Native American Monitors**
- **Safety Considerations when Working with Monitors**
- **Communication Protocols**
- **Appropriate Respect Regarding Native American Participation and Discovery of Human Remains**
- **Requirements of the Mitigation Measures that may cause construction delays**
- **Consequences of Unauthorized Collection of Artifacts**

The WEAP training will be given prior to construction and to any new workers on the project who did not attend the initial training.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant with Mitigation Incorporated.



No evidence exists to suggest that the proposed Project site has been used for human burials. The California Health and Safety Code (Section 7050.5) states that if human remains are discovered onsite, no further disturbance shall occur in the immediate area until the County Coroner determines the origin and disposition pursuant to PRC Section 5097.98, including coordination with local Native American tribes if the remains are identified as prehistoric. Adherence to applicable California Health and Safety Code and PRC requirements is standard for all projects. Additionally, the proposed Project would implement mitigation measures within CULT-2 which will describe the process, treatment and timelines and associated with discovery of Native American human remains. Implementation of the proposed Project would have a less than significant impact to disturbance of any human remains during the construction phase, operations phase, and the decommissioning phase with the implementation of CULT-2 and CULT-4.

Mitigation Measures

CULT-2: **Development and Implementation of a Cultural Resources Monitoring Plan**

CULT-4: **Human Remains**. If human remains are discovered, all work shall be halted immediately within 50 feet of the discovery, the City shall be notified, and the County Coroner must be notified according to Section 5097.98 of the State PRC and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Cumulative Impacts

The project level analysis concluded that impacts to cultural resources would be less than significant with the implementation of Mitigation Measures CULT-1 through CULT-4. With implementation of these measures, the Project is avoiding (leaving in place) known archaeological resources determined eligible (due to the information they contain under CRHR Criteria 4). Because identified cultural resources will be avoided (left in place), and CUL-2 requires monitoring and treatment of unexpected discoveries, there will be a less than significant impact to Cultural Resources, and as such, the project would not contribute to any cumulative impacts.

3.6 ENERGY

3.6.1 Setting

Southern California Edison is the electrical service provider for the City. SCE maintains a number of distribution lines and substation facilities in the Adelanto area, which includes the Roadway Substation. SCE is required by the California Energy Commission to publish a power content label (SCE 2018) that describes the percentage mix of SCE's energy sources.

In 2017, SCE obtained power from the following sources

- Renewable: 32 percent
- Large Hydroelectric: 8 percent
- Natural Gas: 20 percent
- Nuclear: 6 percent
- Unspecified Sources of Power[2]: 34 percent

SCE's renewable energy sources are further broken down as follows:

- Solar: 13 percent
- Wind: 10 percent
- Geothermal: 8 percent
- Eligible Hydroelectric: 1 percent

There are several existing solar facilities within and around the City. The proposed Project would operate as a wholesale power producer with 100 percent of the solar energy output to be exported to the SCE electric grid via the new gen-tie line that would be constructed as part of the proposed Project.

As discussed in greater detail above in Section 2.0, Project Description, the proposed Project would have an aggregate electrical generating capacity of approximately 200 MW_{AC}, which is enough power to supply approximately 97,500 homes with electricity annually.

3.6.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of	☐	☐	☒	☐

[2] "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
energy resources, during project construction or operation?				
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion of Impacts

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact.

Resources that would be consumed as a result of the proposed Project include water, electricity, and fossil fuels during construction and O&M. Construction would require the manufacture of new materials, some of which may not be recyclable at the end of the proposed Project's lifetime. The energy required for the production of these materials would also result in an irretrievable commitment of natural resources. The anticipated equipment, vehicles, and materials required for construction of the proposed Project are detailed in Section 2.0, Project Description; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. Compliance with all applicable building codes, State of California, and City policies such as the CARB Clean Cars Program, and the Building Energy Efficiency Standards as required by the California Code of Regulations, Title 24, Part 6 would ensure that all natural resources are conserved to the maximum extent possible.

Construction, operation, and decommissioning of the proposed Project would result in a net increase in energy resources available for use. During operation, the proposed Project would generate approximately 200 MW_{AC} of efficient, clean, renewable energy. This energy resource could be used to create other goods or more efficiently power regional services, thus ensuring that no wasteful or inefficient consumption of energy resources would occur; therefore, impacts would be less than significant during the construction phase, operations phase, and the decommissioning phase.

Furthermore, to meet air quality requirements and save materials and fuel for economic gain, the Applicant has committed to implementing energy efficiency and fuel use reduction measures for all onsite equipment, and wherever possible during construction.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact.

The proposed Project would be compliant with all state and local plans for renewable energy or energy efficiency because it would develop a renewable source of power, helping to offset the use of

nonrenewable resources and contribute to an overall reduction of nonrenewable resources currently used to generate electricity; therefore, there would be no impact during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that there would be less than significant impacts to energy resources because the proposed Project's primary objective is to produce a new source of renewable power. Thus, the proposed Project plus related cumulative projects would result in no significant cumulative impacts to energy resources. Therefore, the proposed Project's contribution to cumulative energy resources impacts would not be cumulatively considerable.



3.7 GEOLOGY AND SOILS

3.7.1 Setting

Topography

Discussed in greater detail in Section 2.0, Project Description, the proposed Project is located solely within the City. The City is situated on gently sloping alluvial fans ranging in elevation from approximately 3,500 feet near the southern border to approximately 2,600 feet along the Mojave River to the east. The geological character of the City and the surrounding region has been formed by its proximity to large active fault systems, including the Helendale, San Andreas, and North Frontal faults. Details on the topography of the proposed Project site are included in the impact section below.

Liquefaction

In general, liquefaction occurs when low-density, saturated, and loose substrate (such as sand or silty sand) are weakened and change from a solid to a near-liquid state as a result of increased pore water pressure. This increase in pressure is often caused by a strong ground shaking (such as from an earthquake). Generally, liquefaction occurs more often in areas underlain by fine sands or silts and where shallow groundwater is present. Groundwater levels within the City vary substantially. Levels within the City range from approximately 15 feet below ground surface along the Mojave River to approximately 600 feet below ground surface near the southwestern City boundary. Details on the potential for liquefaction at the proposed Project site are included in the impact section below.

Landslides

In general, landslides are movements of relatively large landmasses, either as nearly intact bedrock blocks or as jumbled mixes of bedrock blocks, fragments, debris, and soil. Landslides are common throughout Southern California's mountain ranges, particularly near major fault zones where the rock has been weakened by fracturing, shearing, and crushing. Landslides may occur due to seismic shaking, local climatic conditions, or human-made modifications to the slide mass. Undercutting of slopes during construction, improper compaction, or oversaturation can also trigger landslides. Immediate dangers from landslides include destruction of property and possible fatalities from rocks, mud, and water sliding. Details on the potential for landslides at the proposed Project site are included in the impact section below.

Soils

Prior to conducting the delineation detailed in Appendix B.2, historical soils data from the Natural Resources Conservation Service (NRCS) were used to investigate the soil types that have been historically mapped within the proposed Project site. Soils predicted to be within the proposed Project site are dominated by loamy sands, which matched conditions observed in the field. Table 11 summarizes the soils mapped within the proposed Project area.



Table 10: Summary of Vegetation and Land Cover Types

Map Unit Symbol	Map Unit Name	Description	Acres Within Survey Area
105	Bryman loamy fine sand, 0 to 2 percent slopes	A well-drained soil that is associated with fan remnants from 2,800-3,200 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-9 inches), sandy loam (9-12 inches), sandy clay loam (12-32 inches), sandy loam (32-46 inches), and loamy sand (46-99 inches).	126.45
106	Bryman loamy fine sand, 2 to 5 percent slopes	A well-drained soil that is associated with fan remnants from 3,000-3,400 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-9 inches); sandy clay loam (9-43 inches); sandy loam (43-60 inches).	24.45
112	Cajon sand, 0 to 2 percent slopes	A somewhat excessively drained soil that is associated with alluvial fans from 1,800-3,200 feet in elevation; parent material is not defined; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-9 inches); sandy clay loam (9-43 inches); sandy loam (43-60 inches).	298.09
113	Cajon sand, 2 to 9 percent slopes	A somewhat excessively drained soil that is associated with alluvial fans from 1,800-3,500 feet in elevation; parent material is alluvium derived from mixed sources; very low runoff; depth to water table is more than 80 inches; sand (0-25 inches); gravelly sand, stratified gravelly sand to sand (25-60 inches).	11.07
133	Helendale-Bryman loamy sand, 2 to 5 percent slopes	A well-drained soil that is associated with fan remnants from 2,500-4,000 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy sand (0-6 inches); sandy loam (6-66 inches); loamy sand, sandy loam (66-99 inches).	728.27
139	Kimberlina gravelly sandy loam, cool, 2 to 5 percent slopes	A well-drained soil that is associated with fan aprons from 250-3,500 feet in elevation; parent material is alluvium derived from mixed sources; no runoff; depth to water table is more than 80 inches; gravelly sandy loam (0-7 inches); gravelly sandy loam, gravelly fine sandy loam (7-60 inches).	148.47
140	Lavic loamy fine sand	A moderately well-drained soil that is associated with fan aprons and fan skirts from 2,800-3,100 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-10 inches); loamy sand, loamy fine sand, loam, sandy loam (10-20 inches).	381.49

Map Unit Symbol	Map Unit Name	Description	Acres Within Survey Area
144	Manet coarse sand, 2 to 5 percent slopes	A well-drained soil that is associated with fan aprons; parent material is alluvium derived from mixed sources; no runoff; depth to water table is more than 80 inches; coarse sand (0-3 inches); stratified sand to loamy sand (3-42 inches); fine sandy loam, loamy fine sand (42-60 inches).	9.02
159	Roadmond loam, saline-alkali	A well-drained soil that is associated with fan skirts; parent material is alluvium derived from granite; no runoff; depth to water table is more than 80 inches; loam (0-5 inches); stratified loam to silty clay loam (5-44 inches); stratified loamy coarse sand to loamy fine sand (44-60 inches).	75.76
166	Trigger-rock outcrop complex, 30 to 50 percent slopes	A well-drained soil that is associated with mountains; parent material is residuum weathered from calcareous conglomerate; no runoff; depth to water table is more than 80 inches; gravelly sandy loam (0-12 inches).	0.00*
* Area too small for rounding – actual acreage is 0.0016			

Source: Appendix B.2 – Jurisdictional Waters and Wetlands Delineation

3.7.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading,	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS — Would the project:				
subsidence, liquefaction, or collapse?				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion of Impacts

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Less than Significant Impact.

The proposed Project site is not located in an Alquist-Priolo Fault Zone (CGS 2019a), and there is no substantial evidence of a known fault underlying the proposed Project site or recent (i.e., Holocene) faulting within the proposed Project site (Caltech 2019). The closest mapped fault to the proposed Project site is the southeastern portion of the Mirage Valley Fault, located approximately 3 miles west (Caltech 2019). The proposed Project site is located approximately 13 miles west of the Helendale Fault, approximately 20 miles northwest of the North Frontal Fault, and approximately 20 miles northeast of the San Andreas Fault. The Helendale, North Frontal, and San Andreas faults have all had Holocene surface ruptures; however, based on the aforementioned references, the proposed Project site itself is not subject to surface rupture hazard, and there would be no significant impact. Additionally, all proposed Project components would be designed to conform with all relevant building codes. Therefore, impacts related to rupture of a known earthquake fault would be less than significant during the construction phase, operations phase, and the decommissioning phase.

ii. Strong seismic ground shaking?

Less Than Significant Impact.

There are no known faults located on or in the vicinity of the proposed Project. It is reasonable to assume that the proposed Project would be subject to ground shaking from a large earthquake on any of the major faults in the region. Shaking would be less severe from an earthquake that originates farther from the proposed Project site; however, the effects from nearby or regional severe earthquakes could be damaging to proposed Project structures. It is anticipated that, in the event of a large earthquake, proposed Project components would be subject to ground shaking during the operation of the proposed Project. Seismic ground shaking is not expected to materially affect construction of either the proposed Project or the gen-tie and communication lines because the event would be short-term and construction would immediately cease upon experiencing an earthquake.

The potential for seismic ground shaking in the vicinity of the proposed Project during operation is unavoidable. However, design requirements for photovoltaic solar panels, the inverters, transformers, and other electrical equipment and associated infrastructure are generally more stringent than those design requirements typically employed to address strong seismic ground shaking for other traditional structures. The California Building Code (CBC) requires that project structures be designed with adequate strength to withstand the lateral dynamic displacements induced by the Design Basis Ground Motion, which the CBC defines as the earthquake ground motion that has 2 percent chance of being exceeded in 50 years. Although proposed Project components (such as the solar panels) could be damaged by strong seismic ground shaking, due to the nature of the design and its components, all potential damage to the components from seismic ground shaking would be easily repaired. In addition, during operations the project would be unmanned except for periodic maintenance activities, further reducing the risk of injury or death due to strong seismic ground shaking. Therefore, potential impacts associated with ground shaking would be less than significant during the construction phase, operations phase, and decommissioning phase and would not pose a significant hazard of loss, injury, or death.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact.

According to the California Geological Survey's Earthquake Zones of Required Investigation, the Adelanto Quadrangle has not been evaluated for liquefaction or landslides (CGS 2019b). Therefore, the proposed Project is not located in an area which has been mapped by the California Department of Conservation for potential liquefaction areas. Additionally, the Adelanto North 2035 Comprehensive Sustainable Plan states that liquefaction conditions are more likely to exist along the Mojave River, and in other sandy areas with high water tables.

Compliance with existing laws, regulations, and requirements, including the CBC, would serve to alleviate this potential hazard. Additionally, the proposed Project would not include any temporary or permanent habitable structures that would expose residents to risk of loss, injury, or death due to seismic-related ground failure. If seismic-related ground failure or liquefaction were to occur, proposed Project



components (such as the solar panels) could be damaged; however, due to the nature of the design and its components, all potential damage to the components from seismic-related ground failure would be easily repaired and would not pose a significant hazard of loss, injury, or death; therefore, less than significant impact is anticipated during the construction phase, operations phase, and the decommissioning phase.

iv. Landslides?

Less Than Significant Impact.

The proposed Project is not located in an area which has been mapped by the California Department of Conservation for potential landslides. Elevations along the proposed Project range from 2,745 feet amsl to 2,815 feet amsl. The relatively flat, featureless topography of the proposed Project site, proposed gen-tie routes, and the adjacent properties reduces the opportunity for a landslide to occur. Moreover, the proposed Project would not include residential uses, and none of the construction personnel or employees would reside on the proposed Project site.

Prior to construction of the proposed Project, existing regulations and requirements, including the CBC, would result in a determination of the potential for landslides and integrate project design features and engineered components to reduce or alleviate this potential hazard. Compliance with existing laws, regulations, and requirements would serve to alleviate this potential hazard. Additionally, the proposed Project would not include any habitable structures that would expose residents to risk of loss, injury, or death due to landslides. If a landslide were to occur, proposed Project components (such as the solar panels) could be damaged; however, due to the nature of the proposed Project design and its components, all potential damage to the components from a landslide would be easily repaired and would not pose a significant hazard of loss, injury, or death; therefore, less than significant impact is anticipated during the construction phase, operations phase, and the decommissioning phase.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact.

Discussed above in Section 2.0, Project Description, the proposed Project would require excavation and grading for the solar arrays, equipment pads and foundations, and underground conduits, and work areas could loosen soil and accelerate erosion, potentially resulting in the loss of topsoil. The soils in the proposed Project area generally contain high percentages of sand and may be susceptible to wind and water erosion. Soils containing higher percentages of silt and fine sands that are low in density are generally the most erodible. The potential for erosion decreases as the amount of organic matter and clay in soils increases. Additionally, clay can act as a binding agent for soils, further reducing the erosive potential.

Removal of vegetation and excavation and grading during construction of the proposed Project could loosen soils and trigger or accelerate erosion. The gen-tie routes are primarily located within existing



streets and dirt roads. However, excavation during construction of the gen-tie and communication lines could also potentially loosen soils and trigger or accelerate minor erosion.

All the soils underlying the proposed Project site have low to moderate potential for wind erosion, and erosion by wind could occur in areas where the soil is loosened by construction activities. Erosion potential of soils by water throughout the proposed Project site is moderate, and erosion by water would most likely occur in areas where construction activities have loosened the soil. As discussed in Appendix D (Preliminary Drainage Report), erosion potential from water (sheet and rill erosion) is low.

Construction of the proposed Project would disturb a surface area greater than 1 acre. Therefore, existing regulations would require the Applicant to prepare a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would require development and implementation of BMPs to identify and control erosion, which would reduce the potential for construction triggered erosion. No additional mitigation would be needed to reduce the less than significant impact during the construction phase, operations phase, and the decommissioning phase.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction of collapse?*

Less Than Significant Impact.

As previously discussed, neither the proposed Project site nor the proposed gen-tie routes are located within an identified landslide hazard area. The threat of a landslide occurring on or adjacent to the site is nominal. Therefore, potential impacts associated with landslides would be less than significant during the construction phase, operations phase, and decommissioning phase.

Lateral spreading of the ground surface usually occurs within liquefiable beds during seismic events. Lateral spreading generally requires an abrupt change in slope (e.g., a nearby steep hillside, a deeply eroded stream bank), but can occasionally occur on gentle slopes or relatively featureless topography. Other factors, such as distance from the seismic event, magnitude of the seismic event, and thickness and depth of liquefiable layers, also affect the degree of lateral spreading. The proposed Project site and proposed gen-tie routes are not located in an identified liquefaction zone.

The proposed Project site and surrounding valley area are expected to experience only minimal ground shaking, further reducing the potential for liquefaction. Since the threat of liquefaction occurring at the proposed Project site is minimal, the potential for lateral spreading of the ground surface during seismic events is similarly minimal. Therefore, potential impacts associated with lateral spreading would be less than significant during the construction phase, operations phase, and decommissioning phase.

No mines, karst topography, or other subsurface features are known to exist beneath the proposed Project site or surrounding area. Therefore, the threat of ground subsurface collapse such as subsidence is considered nominal across the proposed Project area. Therefore, potential impacts associated with



collapse would be less than significant during the construction phase, operations phase, and decommissioning phase.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating substantial risks to life or property?

Less Than Significant Impact.

Expansive soils generally have a significant amount of clay particles, which can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and connected utilities and can lead to structural failure and damage to infrastructure. The extent of shrink or swell is influenced by the amount and kind of clay in the soil. The occurrence of these soils is often associated with geologic units having marginal stability. The majority of soil in the proposed Project area consists of sand and loamy sand with a low expansive potential, as defined in Table 18-1-B of the Uniform Building Code. Therefore, impacts associated with expansive soil would be less than significant during the construction phase, operations phase, and the decommissioning phase.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact.

Discussed in greater detail below in Section 3.19.2, Utilities and Service Systems Impact Analysis, wastewater generated by the proposed Project would primarily be generated during construction and would be accommodated by temporary portable toilets brought to the construction work areas by construction crews. The proposed Project does not include the installation of septic tanks or other wastewater disposal systems. As such, no impact resulting from soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems would occur during the construction phase, operations phase, and the decommissioning phase.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated.

Discussed in Appendix C (of the Cultural Resources Technical Report), no known vertebrate fossil localities fall within the proposed Project's footprint. Detailed in Appendix C, shallow excavations in the uppermost layers of soil and Quaternary Alluvium exposed throughout the proposed Project site are unlikely to encounter significant fossil vertebrate remains. However, excavations at depths extending beyond 10-11 feet into older Quaternary sediments may potentially encounter vertebrate fossils. The implementation of mitigation measures BIO-2 (Environmental Awareness Training), GEO-1 (Paleontological Monitoring Plan), and GEO-2 (Paleontological Monitoring) would further reduce this less than significant impact during the construction phase, operations phase, and the decommissioning phase.



The Project site is relatively flat with no unique geologic features; no impacts would occur regarding destruction of a unique geologic feature.

Mitigation Measures

BIO-2: Environmental Awareness Training

GEO-1: **Paleontological Monitoring Plan**: Prior to the issuance of any construction permit, the Applicant shall retain a qualified paleontologist. The qualified paleontologist shall review the construction plans and determine if paleontological monitoring is required through the development of a Paleontological Monitoring Plan. The plan should include the following:

- Areas where paleontological monitoring will occur, if any.
- A Worker Environmental Awareness Plan training presentation focused on fossil resources. The training should be given to all construction personnel prior to conducting ground disturbing activities and include at a minimum: how to recognize possible paleontological resources and protect paleontological resources during construction; procedures for temporarily halting or redirecting work to permit inspection, sampling, identification, and evaluation of fossils; and the prohibition of unauthorized collection or disturbance of fossils. A record of all trained personnel shall be kept on file by the Applicant.
- Procedures and protocols for informing the qualified paleontologist if fossils are unexpectedly discovered during construction.
- Procedures to follow if fossils are encountered. Field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples would be collected and submitted for analysis from each locality.
- Preparation procedures for any recovered fossils. Recovered fossils shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility.

GEO-2: **Paleontological Monitoring:** Prior to the issuance of any construction permit, the Applicant shall retain a qualified paleontologist to observe grading activities if required, as determined by the Paleontology Monitoring Plan.

If paleontological monitoring is required, or if fossil resources are discovered during construction, the qualified paleontologist will implement the Paleontology Monitoring Plan. Following construction, a monitoring and discovery report wil be submitted to the Applicant. The report shall include the period of inspection, a catalog and analysis of the fossils found, and the present repository of the fossils. The Applicant shall prepare excavated material to the point of identification and offer excavated finds for curatorial purposes to the City, or its designee, on a first refusal basis.

Cumulative Impacts

The proposed Project-level analysis concluded that impacts to geology and soils would be less than significant with the implementation of the proposed Project Mitigation Measures GE0-1 and GEO-2. Because no impacts to paleontological resources were identified, and GEO-2 ensures unexpected discoveries will be treated, the proposed Project's contribution to cumulative geology and soils impacts to fossil resources would be less than cumulatively considerable.



3.8 GREENHOUSE GAS EMISSIONS

3.8.1 Setting

Climate Change and Greenhouse Gas Emissions

Greenhouse gas (GHG) and climate change are a cumulative global issue. CARB and USEPA regulate GHG emissions within the California and the United States respectively. While the CARB has primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. Additionally, the proposed Project area is located within the MDAB and is within the jurisdiction of the MDAQMD.

Many chemical compounds in the earth's atmosphere act as GHGs, as they absorb and emit radiation within the thermal infrared range. When radiation from the sun reaches the earth's surface, some of it is reflected back into the atmosphere as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy from the sun to the earth's surface should be approximately equal to the amount of energy radiated back into space, leaving the temperature of the earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide [CO_2], methane [CH_4], and nitrous oxide [N_2O]), while others are exclusively human-made (like gases used for aerosols) (USEPA 2019).

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels enhance the greenhouse effect, which contributes to global warming of the earth's lower atmosphere and induces large-scale changes in ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other changes to the earth system that are collectively referred to as climate change.

The principal climate change gases resulting from human activity that enter and accumulate in the atmosphere are listed below:

- **Carbon Dioxide:** CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- **Methane:** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **Nitrous Oxide:** N_2O is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.



- **Fluorinated Gases:** Hydrofluorocarbons (HFCs), perfluorinated chemicals (PFCs), and Sulfur hexafluoride (SF_6) are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for O_3-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent climate-change gases, they are sometimes referred to as high global warming potential (GWP) gases.

According to Assembly Bill (AB) 32, California's Global Warming Solutions Act, GHGs of concern include the following gases: CO_2, CH_4, N_2O, PFCs, SF_6, and HFCs. The primary GHGs that would be generated by the proposed Project would include CO_2, CH_4, and N_2O. As a method of simplifying reporting, GHG emissions are discussed in terms of metric tons of carbon dioxide equivalents (CO_2e), which accounts for the relative warming capacity (i.e., GWP) of each gas.

Table 12 lists the global warming potential of CO_2, CH_4, N_2O, HCFs, and SF_6, their lifetimes, and abundances in the atmosphere.

Table 11: Lifetimes and Global Warming Potentials of Several Greenhouse Gases

Greenhouse Gases	Global Warming Potential (100 years)	Lifetime (years)	Current Atmospheric Abundance
CO_2 (ppm)	1	100-300	399.5
CH_4 (ppb)	28	12.4	1834
N_2O (ppb)	265	121	328
HFC-134a (ppt)	1,300	13.4	84
SF_6 (ppt)	23,500	3,200	8.6

Notes:
HFC = hydrofluorocarbons.
CH_4 = methane.
CO_2 = carbon dioxide.
N_2O = nitrous oxide.
ppb = parts per billion.
ppm = parts per million.
ppt = parts per trillion.
SF_6 = sulfur hexafluoride
Source: U.S EPA 2020

3.8.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS — Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion of Impacts

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Impact.

The proposed Project would result in GHG emissions during the construction phase through the use of conventional construction equipment and vehicles. Construction emissions would be short-term, occurring only during the estimated 18-month construction period of the proposed Project. GHG emissions would be generated by construction worker daily commutes, from heavy-duty diesel tractor trucks that would be required to haul materials to and from the proposed Project site and as a result of water used for dust control and other construction activities. Estimates of total annual GHG emissions from construction of the proposed Project are shown in Table 13.

Table 12: Maximum Project Construction GHG Emissions

Year	CO_2e (metric tons per year)
2020	1,096
2021	954
Maximum	**1,096**
MDAQMD Threshold	100,000
Exceedance of threshold	No

Notes:
CO_2e = carbon dioxide equivalent
MDAQMD = Mojave Desert Air Quality Management District
Source: CalEEMod 2019

As shown on Table 13 above, construction of the proposed Project would result in a maximum annual emission of 1,096 CO_2e per year, which is below the MDAQMD's threshold of 100,000 metric tons of CO_2e per year.

Additionally, the proposed Project would generate up to 200 MW_{AC} of electricity from a renewable source (solar). As such, the proposed Project has the potential to offset some sources of GHG emissions by reducing the amount of electricity generated using fossil fuels that is currently obtained by utility providers. Lifecycle analyses have been completed that compare GHG emissions from solar power projects to other types of power plants. Such comparisons confirm that solar power has among the lowest GHG emissions among all options, especially compared to fossil fuels. As such, the minor GHG emissions that would occur from the operation of the proposed Project are less than significant and may be considered a beneficial impact because it would reduce the burden of generating electricity from fossil fuels and contributed to the state mandate for 50 percent renewable energy by 2030, and 100 percent renewable energy by 2045. As described using the US EPA Avoided Emissions and Generation Tool (AVERT, 2020), the operation of the Project would displace approximately 195,670 tons of CO_2 annually, far exceeding the amount generated during construction. As the Project is anticipated to operate for approximately 30 years, approximately 5,870,100 tons of CO_2 would be displaced.

GHG emissions during the operation of the proposed Project would be minor, consisting of exhaust from up to three vehicles used by workers to commute to and from the proposed Project site, move around the proposed Project site while working, and the operation of limited maintenance and equipment. The total CO_2e operational emissions from the proposed Project are estimated to be 3.3 metric tons of CO_2e each year, which is well below the MDAQMD's threshold of 100,000 metric tons of CO_2e per year. Impacts associated with decommissioning are expected to be similar but less than those associated with construction.

The following discusses the potential for the air temperatures to increase resulting from an urban heat island effect, which could impact the quality of the air surrounding the proposed Project site. In the publication Analysis of the Potential for a Heat Island Effect in Large Solar Farms (Fthenakis and Yu 2011), data was collected over an 18-month period to determine the temperature dissipation of thermal energy from a 1 MW section of a 500 MW solar farm. Field data consisted of the collection of the following measurements: temperature, wind speed, wind direction, solar irradiance, relative humidity and rain fall. Through graphing two-dimensional and three-dimensional simulations of this data, it was determined that, while the back surface of the solar panels is up to 30°C warmer than the ambient temperature, the air above the arrays is only up to 2.5°C higher than the ambient temperature. The simulations showed that heat dissipated with height and cooling at night. The simulations also indicated that the access roads and spacing between the solar arrays allows for substantial cooling, and therefore, an increase of the size of the solar farm may not affect the temperature of the solar generating facility's farm's surroundings. Overall data showed that on most days, the solar array was completely cooled at night (Fthenakis and Yu 2011). Thus, it is unlikely that a heat island effect would occur from the operation of the proposed Project.

Considering the above, and in light of the CO2e which would be displaced by operation of the Project, the proposed Project would not generate GHG emissions either directly or indirectly that may have a



significant impact on the environment, no impact would occur during the construction phase, operations phase, and the decommissioning phase, and no mitigation measures would be required.

b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact.

Implementation of the proposed Project would have a significant impact if it conflicted with the emission reduction goals set forth by AB 32, SB 32, or the San Bernardino County Regional GHG Reduction Plan (County 2014). CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels. These potential strategies include renewable resources for half of the state's electricity by 2030, reducing petroleum use in cars and trucks, and reducing carbon content of transportation fuels. Implementation of the proposed Project would comply with these regulations, as promulgated by the USEPA, CARB, or other agencies and would not generate substantial amounts of GHG emissions that would hinder the state's ability to achieve the goals under the California Health and Safety Code Division 25.5 for 2030. In fact, the proposed Project is a solar project and would therefore, in its very nature, be consistent with the goals set for in these plans.

The proposed Project's construction, operation, and decommissioning activities would not result in an exceedance of the MDAQMD's GHG thresholds as discussed under impact a) above. The proposed Project would, in its very nature, comply with the SB 32 goals of reaching 40 percent below the 1990 levels by 2030. Further, consistent with goals EE 1 and 2 of the San Bernardino County Regional GHG Reduction Plan, the proposed Project would introduce a new renewable energy facility, use contractors that are in compliance with regulations including the USEPA Heavy Duty Vehicle GHG Regulation, the CARB ATCM that limits heavy-duty diesel motor vehicle idling, and low-carbon fuel standards.

Therefore, because the proposed Project would be consistent with the USEPA, CARB, and San Bernardino County Regional GHG Reduction Plan, as well as the MDAQMD thresholds devised to reduce GHG emissions, it would not conflict with applicable plans, policies, or regulations with the purpose of reducing GHG emissions. The impact would be less than significant during the construction phase, operations phase, and the decommissioning phase, and no mitigation measure would be required.

Cumulative Impacts

The proposed Project-level analysis concluded impacts to greenhouse gas emissions were less than significant and do not require mitigation. The nature of GHGs is cumulative, as the accumulation of GHGs from sources around the world contributes to climate change, which by definition would include the related cumulative projects. There is no guidance from the District regarding the significance of construction- or decommission-related emissions. AB 32 requires that GHGs be reduced by 40 percent below the 1990 levels by 2030. Construction emissions would occur prior to the year 2030; therefore, the emissions would not impede implementation of AB 32. As shown on Table 13 above, construction of the proposed Project would result in a maximum annual emission of 1,096 CO_2e per year, which is below the MDAQMD's threshold of 100,000 metric tons of CO_2e per year. Considering the above, and in light of the



CO2e which would be displaced by operation of the Project, the proposed Project would not generate GHG emissions either directly or indirectly that may have a significant impact on the environment.

Additionally, the proposed Project would reduce emissions of GHGs during operation as compared to uses presently occurring on-site. The proposed Project would reduce existing baseline emissions, which is more than the District's significance threshold. Therefore, the proposed Project's emissions have less than significant cumulative impacts and therefore are not cumulatively considerable.



3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 Setting

Land uses within the proposed Project site and in the surrounding areas include rural residential and open space. Existing and past land uses are useful as potential indicators of historic hazardous materials usage or storage. The site has evidence of unauthorized off-highway vehicle use and contains a large amount of illegally dumped waste. Illegally dumped waste has the potential to contain hazardous materials. These materials could be present in dumped materials such as batteries, appliances, or waste from clandestine drug manufacturing. In addition, motor vehicle fuel leaks from unauthorized off-highway vehicle usage represent a potential source of soil contamination. Historical aerial photographs do not indicate historical agricultural activities present within the site. The proposed Project is located within the City; therefore, the Hazardous Materials Division of the SBCFD has been designated by the State Secretary for Environmental Protection as the CUPA. The CUPA is responsible for managing hazardous materials and hazardous waste programs within the County. The CUPA also administers hazardous waste related permits and performs facility inspections and enforcement activities throughout the County. As discussed above in Section 2.2.14 (Hazardous Waste), the Applicant intends to prepare and file a Hazardous Materials Business Plan with the CUPA for the Project.

On August 2, 2019, Terracon preformed six Phase I Environmental Site Assessments for the proposed Project site (see Appendix E, Phase I Environmental Site Assessments). Terracon did not identify any recognized environmental conditions in connection with the proposed Project site, and as such, no further investigation was recommended.

3.9.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				
e) For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Discussion of Impacts

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact.

Construction of the proposed Project would involve the routine use of hazardous materials such as equipment fuels (gasoline, diesel), oils and lubricants, and hydraulic fluid. These materials could be released during construction as a result of mishandling, accidents, or leaking equipment; however, existing regulations would require the Applicant (and by extension, the construction contractors) to monitor work areas for the release of hazardous materials and to take steps to prevent the mobilization of contaminants into the surrounding environment.

During construction-related activities of the proposed Project, fuels and other materials such as greases used with construction-related equipment may be stored on-site within locked aboveground containers. Fuel stored on-site during construction- and decommissioning-related activities is subject to federal and state regulation. Federal regulations (40 CFR §112) and the Aboveground Petroleum Storage Act prescribe spill protection requirements designed to protect human health and the environment. The use, storage, transport, and disposal of hazardous materials in connection with the solar facility would be carried out in accordance with federal, state, and local regulations.



Hazardous materials could impact soil or water quality and expose humans and the environment to hazardous materials if they are carried away from the site by storm runoff. To prevent this from happening, a SWPPP would be prepared and implemented prior to initiation of construction-related activities. Additional details of the SWPPP are provided in the Hydrology and Water Quality Impact discussion.

Operation of the proposed Project would require the use of hazardous materials (such as pesticides or herbicides) only where necessary. As detailed above in Section 2.5.9, Hazardous Waste, it is anticipated that hazardous material usage onsite will be negligible. Potentially hazardous materials would generally be present within the transformer components (such as dielectric fluid or SF_6). In the event that these materials would need to be removed from the components, existing regulations would require the Applicant to engage with a fully qualified removal and recycling service.

As part of the existing regulations, the Applicant would obtain an approved hazardous materials release response plans and inventory (also known as a hazardous materials business plan) from the CUPA prior to construction. This plan is used to provide information to the general population regarding hazardous materials at facilities and includes safe handling requirements, storage requirements, and periodic training requirements. Additionally, the plan also requires a release reporting requirement in the event that there is a reasonable belief that the release or threatened release poses a significant present or potential hazard to human health, safety, property, or the environment (County 2019).

The proposed Project's BESS would likely use lithium ion batteries. The batteries would be contained in pad-mounted enclosures. This technology requires cooling of the battery components (cells/modules) because lithium ion batteries could otherwise heat to the point of thermal runaway (i.e., failure of a single cell within the system cascading into a fire and explosion). The Project would cool the battery components by maintaining the battery enclosure at room temperature (within a specific temperature range, around 68 degrees Fahrenheit) using traditional air conditioner units (compressor-based refrigerant systems). The battery enclosures would provide an additional level of protection by providing containment in the event of a fire. The Project would implement a fire suppression system to reduce the risk of fire. Features such as electronic monitoring systems, alarms, and circuit breakers would be incorporated in the final design to lower the possibility of a thermal runaway chain reaction. The Project would comply with Section 608 of the California Fire Code to minimize risk of fire from the BESS and to contain fire in the event of an accident. Compliance with Article 480 of the Electrical Code (which identifies insulation and venting requirements for stationary storage batteries), would further reduce potential fire risk.

The batteries and other materials for the BESS facilities would be manufactured offsite and transported to the project site by truck. If removal of defective batteries from the project site is required during operations, this material would be classified mostly as universal waste under the California Department of Toxic Substances Control (DTSC) regulations and guidance. Transportation of batteries is subject to 49 CFR 173.185—Department of Transportation Pipeline and Hazardous Material Administration. These regulations include requirements for prevention of a dangerous evolution of heat, prevention of short circuits, and prevention of damage to the terminals, and would require that no battery come in contact



with other batteries or conductive materials. Adherence to the requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams would minimize any public hazard related to transport, use, or disposal of batteries.

The solar facility may be constructed using photovoltaic PV panels that contain a thin semiconductor layer containing cadmium telluride (CdTe). While CdTe itself is a hazardous substance in an isolated form, the CdTe in the PV panels is bound and sealed within the glass sheets and a laminate material. During the PV module manufacturing process, CdTe is bound under high temperature to a sheet of glass by vapor transport deposition, coated with an industrial laminate material, insulated with solar edge tape, and covered with a second sheet of glass. The module design results in the encapsulation of the semiconductor material between two sheets of glass thereby preventing the exposure of CdTe to the environment. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules do not generate any emissions of CdTe (Fthenakis, 2003). CdTe PV modules, therefore, do not present an environmental risk during operations. CdTe releases are also unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe.

Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be recycled effectively at the end of their approximately 30-year life. PV module manufacturers provide CdTe module collection and recycling services. Since 2005, the end-of-life CdTe PV modules have been characterized as federal non-hazardous waste, and as a California-only hazardous waste. Solar equipment and infrastructure would be recycled as practical or disposed of in compliance with applicable laws. CdTe PV modules are an article of commerce and are not classified as a hazardous material for shipping purposes under either federal or state law.

Compliance with existing hazardous materials regulations and CUPA permitting would ensure that the potential for the proposed Project to create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials would be less than significant during the construction phase, operations phase, and the decommissioning phase.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact

Discussed under Impact Analysis a), the proposed Project is not expected to cause a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials, largely because the project will not transport, use, or dispose of such materials in meaningful quantities. Construction-related activities would require the limited use of hazardous materials that could result in potential adverse health and environmental impacts if these materials were released into the environment, implementation of construction-related water quality BMPs (implemented as part of the proposed Project's SWPPP) would reduce the potential for such releases and ensure quick response to any spills such that impacts would be less than significant. In addition, were the proposed Project to require the use of hazardous substances exceeding regulatory thresholds, the Applicant would be required by existing regulations to obtain hazardous materials permits from the CUPA. These permits



would include preventative requirements and best practices for the use of hazardous materials related to the proposed Project.

It is possible that previously unknown hazardous materials could be released during ground clearance or disturbing activities during construction. The proposed Project site has been used for illegal dumping in the past. The proposed Project site exhibits dumped materials ranging from unwanted clothing and toys to construction materials, abandoned vehicles, and broken appliances. Terracon preformed six Phase I Environmental Site Assessments for the proposed Project site (see Appendix E, Phase I Environmental Site Assessments). Terracon did not identify any recognized environmental conditions in connection with the proposed Project site, and as such, no further investigation was recommended. The potential for disturbing undocumented subsurface utilities or structures would be further reduced by screening for subsurface structures in areas prior to commencement of subsurface work as required by California Government Code Section 4216). Consequently, the likelihood that hazardous substances will be released during ground disturbing activities is low.

Potential upset and accident conditions include fire that results from overheating or other electrical fault conditions within the BESS, or a fire that spreads to the proposed Project site from an adjacent property. In most cases, mechanical damage would probably rank as the highest risk factor for initiating a thermal runaway (fire/explosion) event. Improper handling can result in crush or puncture damage, possibly leading to the release of electrolyte material or short-circuiting. These actions could result in thermal runaway and a resulting fire and/or explosion.

As explained in Impact Analysis (a) above, battery fire risks at the proposed Project will be managed through proper planning, appropriate system controls, risk assessment, storage methods, and response protocols. The primary method to managing risk is through a sophisticated control system with real-time monitoring, and the instantaneous capability to remotely and autonomously shut down facilities operating out of spec (see more below). In the case of a fire, the project would use a fire protection system with suppression through a cooling, isolation, and containment strategy. Each BESS container would include a gaseous fire suppressant agent. The system would be designed in accordance with NFPA safety standards.

At the system level, a master control system would monitor parameters critical to safety, including all cell voltages, all currents, and representative temperatures. A robust system of logic-based isolation interlocks would prevent exposing cells to unsafe voltages, currents, and temperatures by providing both active and passive isolation. In the event that the control system fails, each of the battery cells include several features designed to reduce the potential for short-circuits, excessive pressure, overheating, and other factors that could potentially lead to a thermal runaway and a resulting fire and/or explosion.

Personnel training would be required to help address the unique issues that this type of battery technology presents, such as battery fire behavior, emergency response procedures, and fire extinguisher use (battery focus). To ensure compliance with the OSHA Emergency Action Plan Standard, 29 CFR 1910.38, and to prepare personnel for dealing with emergency situations, an emergency action plan would be developed. This emergency action plan would be developed to effectively address all emergencies that may be reasonably expected to occur at the BESS. Such a plan may include a



designated emergency coordinator who would be responsible for notification of emergency personnel and safely evacuating project employees, as well as the proper use of fire extinguishers (if applicable). All personnel working onsite would receive instruction and training on the emergency action plan.

The CUPA requires any facility that stores 55 gallons of a hazardous liquid material, 500 pounds of a hazardous solid material, or 200 cubic feet of a hazardous gaseous material to file and maintain a hazardous materials business plan. Activities associated with operations of the proposed Project are expected to handle and store only nominal quantities of hazardous and potentially hazardous materials. These amounts are not anticipated to exceed the aforementioned thresholds established by the CUPA, and thus, would not require the filing of a hazardous materials business plan. In the event that it is deemed necessary to store quantities of hazardous or potentially hazardous materials in excess of the above thresholds, the Applicant would file and maintain a hazardous materials business plan with the CUPA. In the event of an accidental release, the business plan would detail the location and quantities of hazardous materials stored onsite. That information would be made available to emergency responders such as firefighters and medical personnel, who would, in part, use such information to contain the hazardous materials and avoid the creation of a significant hazard.

As explained in Impact Analysis (a) above, even if the proposed Project uses CdTe PV modules, hazardous materials are unlikely to be released during accidental breakage of the PV panels because they have been found to be sufficiently contained within sheets of glass (Fthenakis, 2003). Potential impacts to soil, air, and groundwater quality from broken CdTe PV modules are highly unlikely to pose a potential health risk as they are below both human health screening levels and background levels (Sinha, 2012). Polycrystalline silicon PV panels do not pose a threat to the public or the environment.

Potential CdTe emissions from fire are unlikely to occur at the Project site because of the general lack of fuel to support a sustained wildfire and the regular vegetation management activities that would occur as part of the Project. Grass fires are the most likely fire exposure scenario for groundmounted PV systems, and these fires tend to be short-lived “flash” fires due to the thinness of grass fuels. As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe (which has a melting point of 1,906˚F). Moreover, even if a wildfire could reach that temperature, the actual CdTe emissions from a PV module would be insignificant (approximately 0.04 percent) due to encapsulation in the molten glass matrix (Fthenakis, 2003).

Therefore, potential impacts associated with the release of hazardous materials would be less than significant during the construction phase, operations phase, and decommissioning phase.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less Than Significant Impact.

As discussed further below in Section 3.15.1, Public Services Setting, no schools are located within one-quarter mile of the proposed Project. There are three schools located within one-quarter mile of the proposed gen-tie line. There would be only a limited use of potentially hazardous materials during



construction for construction vehicles and equipment. The proposed Project would not emit hazardous emissions. Depending on the module selected for proposed Project design, solar modules could contain elements such as cadmium telluride or cadmium sulfide. As explained in Impact Analysis (a) and (b) above, there is no risk of cadmium release as part of the proposed Project as the cadmium could only be released if the modules were aerosolized. Other hazardous emissions could result from exhaust of construction vehicles; however, construction would be temporary and of short duration, occurring within one-quarter mile of a school only during construction of the gen-tie lines. Therefore, this impact would be less than significant during the construction phase, operations phase, and the decommissioning phase.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact.

Pursuant to Government Code Section 65962.5, DTSC maintains the ENVIROSTOR list to track hazardous waste facilities and sites subject to corrective action. There are no sites within the City in the list. There are four listed sites located within the County. The closest of these four sites to the proposed Project is the Bunker Hill Groundwater Basin located approximately 29 miles south of the proposed Project.

While not included in the list of hazardous materials sites compiled pursuant to Government Code 65962.5, there is one USEPA Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Superfund site located within the general vicinity of the proposed Project. The former George Air Force Base (now the Southern California Logistics Airport) was designated a Superfund site in 1990. It is located approximately 3 miles southeast of the proposed Project facility and approximately 1.5 miles east of the gen-tie line; however, it is not located within the proposed Project facility. As there are no listed sites located on or near the location of the proposed Project, no impact would occur during the construction phase, operations phase, and the decommissioning phase.

e) *For a project located within an airport land use compatibility plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact.

The solar generating facility is not located within an airport land use compatibility plan and is located greater than 2 miles from the nearest public use airport (Southern California Logistics Airport). As such, the Project would not create a safety hazard or excessive noise for people residing or working within the proposed Project area. No impact would occur during the construction phase, operations phase, and the decommissioning phase.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact.

The proposed Project would be required to comply with all applicable emergency response plans and emergency evacuation plans as a condition of proposed Project approval, and in accordance with area plan and business plan regulations (Health and Safety Code, §25500-25520 and *Cal. Code Reg., tit. 19, § 2720 et seq.*). As discussed in greater detail below in Section 3.17 (Transportation), the Project would add a small number of trips to the existing circulation system during construction, and then little to no new trips during operation of the Project. Given the de minimis nature of these additional trips, no interference with adopted emergency response or evacuation plans would occur.

The proposed Project does not include construction of residences or facilities that would require significant evacuation. The proposed Project would not remove roadways or regional access points. As such, the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; therefore, no impacts are anticipated during the construction phase, operations phase, and the decommissioning phase.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact.

Discussed in further detail below in Section 3.20, Wildfire, the proposed Project is not located in an area mapped as a Very High Fire Hazard Severity Zone (VHFHSZ), nor is it in an area where nearby wildlands are present; therefore, no impact is anticipated during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

Depending on timing for implementation of the projects considered in the cumulative impact analysis, there could be a temporary increase in the transport, use, storage, and disposal of hazardous materials during construction of the projects considered in the cumulative impact analysis. However, hazardous materials that will be used during construction activities are common to the construction and industrial trade and are regulated in accordance with the California Code of Regulations (CCR) Title 22, 23, 26, & 27, 29 CFR 1910.119, California Fire Codes CFR Title 24, and City of Adelanto Fire Department Health and Safety code. Additionally, the proposed Project is located 1.7 to 4.5 miles from the cumulative project and there would be no cumulative interaction construction activities of hazardous materials among the facilities considered in the cumulative impact analysis. Therefore, the Project would not contribute to cumulatively considerable hazards and hazardous materials impacts during construction activities.

During operation of the projects considered in the cumulative impact analysis, hazardous materials would continue to be transported, used, stored, and disposed according to current procedures and in



accordance with regulatory requirements. Therefore, the Project would not contribute to cumulatively considerable hazards and hazardous materials impacts during operation. Therefore, the proposed Project's contribution to cumulative hazards and hazardous materials impacts would be less than cumulatively considerable.



3.10 HYDROLOGY AND WATER QUALITY

3.10.1 Setting

The regional hydraulic setting is discussed in further detail in Appendix D (Preliminary Drainage Report). In general, the proposed Project site is located within an alluvial plain with the Fremont Wash running through portions of the proposed Project, specifically in the northeast corner. Delineated on Flood Insurance Rate Map panel 06071C5780H, the proposed Project site lies within Federal Emergency Management Agency (FEMA) Special Flood Hazard Zone D and Zone X. Additionally, the proposed Project site is located just outside the El Mirage dry lakebed. Areas defined by FEMA as Zone D are areas of undetermined but potential flood hazard. Areas mapped as Zone X are areas of moderate to minimal flood hazard, having an average annual chance flood of 0.2 percent.

As a result of construction of the proposed Project, 1.3 acres of new impervious surfaces (PV tracker pile area, inverter skids, battery skids, and additional substation pads) would be added. All access roads would be pervious. This additional impervious area represents 0.001 percent of the watershed that is contributing to streams passing through the proposed Project site. This would also represent an increase of 0.001 percent within the overall 1,197-acre proposed Project site.

3.10.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY — Would the project:				
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Discussion of Impacts

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact.

The proposed Project would result in the installation of a solar PV facility. Wastewater would mainly be generated during panel washing activities as part of O&M of the proposed Project. Construction of the proposed Project would require up to 323 af of water for dust suppression or other construction activities (such as concrete preparation). Water used for dust suppression would not contain contaminants.

Site preparation activities, such as access road grading and minor excavation for PV collector line installation or foundation installation, could potentially degrade water quality through erosion and sedimentation. Disturbed, loose, or stockpiled soil could be eroded during a rainfall event and mobilized offsite. However, the proposed Project site is generally flat and located in an arid region. The proposed Project site does not contain any perennial waterbodies that could further mobilize contaminants or become degraded as a result of the proposed Project. Detailed further in Appendix D (Preliminary Drainage Report), the proposed Project does not have the potential to significantly alter the existing offsite water sources.

The accidental release or mobilization of contaminants during construction, operation, and decommissioning of the proposed Project could potentially result in water quality degradation within the Upper Mojave River Valley Groundwater Basin. Potentially contaminants may include diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, and other fluids required for the operation of construction vehicles. Motorized equipment used at the proposed Project site during the construction, operation, and decommissioning could leak potentially hazardous materials due to unnoticed or unrepaired damage, improper fueling, or operator error. This type of leak could occur



either on the proposed Project site or on the vehicle and equipment routes between the offsite origin point and the proposed Project site. Any activities that require the use of motorized equipment may result in the accidental spill or release of potentially hazardous materials. As described in Impact Analysis IX, however, such releases are unlikely.

Direct contact with potentially hazardous materials could result from a leak or spill that occurs directly above or within the bed and banks of a flowing stream or waterbody. However, the lack of perennial streams in the proposed Project site minimizes this potential. An accidental release of a potentially harmful or hazardous material into a dry stream bed or wash would not directly impact water quality. Similarly, an accidental release or spill of hazardous materials outside of the stream channel would not directly impact water quality. However, accidental spills or releases of hazardous materials could indirectly impact water quality through runoff during a subsequent storm event when the spilled material could come in contact with or be washed into episodic flowing water. Similarly, groundwater could be contaminated through direct or indirect contact with potentially harmful or hazardous materials that percolate through the soil into the groundwater basin. However, this risk is very unlikely, as the average depth to groundwater for wells in the region is approximately 200-300 feet (Bulletin 118)

Compliance with existing regulations including development and implementation of a SWPPP, which would include BMPs to prevent and respond to accidental spills of hazardous materials or potentially hazardous materials, would address the potential for these materials to linger onsite during the dry-season construction. Typical BMPs include:

- Stockpiling and disposing of demolition debris, concrete, and soil properly;
- Installation of a stabilized construction-related entrance/exit and stabilization of disturbed areas;
- Implementing erosion controls;
- Properly managing construction-related materials;
- Proper protections for fueling and maintenance of equipment and vehicles; and/or
- Managing waste, aggressively controlling litter, and implementing sediment controls

Therefore, impacts would be less than significant during the construction phase, operations phase, and the decommissioning phase.



b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact.

Construction of the proposed Project would occur over an approximately 18-month period and would require approximately 323 af of water for construction purposes. During operation of the proposed Project, water use would mainly be limited to panel washing activities. Operation of the proposed Project would use approximately 9.68 af per year. Water for construction, operation, and decommissioning of the proposed Project would be sourced locally, and a Will Serve letter for the Project from the City of Adelanto will be obtained prior to construction.

Construction of the proposed Project would increase the number of impervious surfaces within the watershed and proposed Project site by 0.001 percent. This minor increase would not represent a significant impediment to groundwater recharge within the region. The proposed Project would disturb a small subset of the Project site's approximately 1,197 acres, with each washing event consuming approximately 30,000 gallons, generating approximately 25 gallons of runoff per acre. Given seasonal temperatures, much of this runoff would evaporate or infiltrate into the ground as it runs off the solar panels.

The rate and amount of recharge and surface runoff is determined by multiple factors, including amount and intensity of precipitation, amount of other imported water that enters a watershed, and amount of precipitation and imported water that infiltrates to the groundwater. Infiltration is determined by several factors, including soil type, antecedent soil moisture, rainfall intensity, the number of impervious surfaces within a watershed, and topography. The rate of surface runoff is largely determined by topography and the intensity of rainfall over a given period of time. Changes in groundwater recharge alter the quantity of groundwater available to the environment, existing users, and other proposed projects. Projects that grade the land surface, remove vegetation, alter the conveyance and control of runoff, or cover the land with impervious surfaces alter the relationships between rainfall, runoff, infiltration and evapotranspiration. The proposed Project would not alter any precipitation amounts or intensities, nor would it require any additional water to be imported from outside of the region into the proposed Project site.

Construction of the proposed Project would create some impervious land within the proposed Project site. Access roads constructed within the proposed Project site would be composed of compacted soils that would be pervious to water infiltration. While the posts constructed to support the solar panels would add a minor amount of additional impervious coverage, the solar panels themselves would not function as impervious coverage, but instead would function similarly to a tree canopy. Rainwater would be partially intercepted by the panels and ultimately run off the panel and onto the ground.

Likewise, most of the rainwater that runs off the impervious project facilities (i.e., concrete pads or other impervious improvements) would also run onto the neighboring soils and infiltrate into the ground. Thus, the amount of land converted to impervious surfaces that would reduce water infiltration and potentially increase erosion and siltation would be minimal. These areas comprise of less than 1 percent of the



approximately 1,197-acre proposed Project site, conservatively estimated. Consequently, the additional impervious cover being produced by the proposed Project is not combined in any one location, such as a parking lot, which would create a "blanket of impervious cover" that could impact recharge. Conversely, the proposed Project's impervious improvements would be dispersed throughout the proposed Project site.

Given that the amount of new impervious cover created by the proposed Project would be minimal, it would not substantially interfere with groundwater recharge. Water identified for the proposed Project may be sourced locally or trucked in. In addition, water used onsite is expected to infiltrate into the subsurface and not run offsite. As such, the proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table, resulting in a less than significant impact during the construction phase, operations phase, and the decommissioning phase.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would*

i. *result in substantial erosion or siltation on- or off-site;*

Less Than Significant Impact.

Increased erosion or siltation on- or offsite could occur as a result of ground disturbing activities associated with the proposed Project. The majority of ground disturbing activities would occur during construction from grading and trenching activities. As detailed further in Appendix D (Preliminary Drainage Report), construction, operation, and decommissioning of the proposed Project would not result in changes to overall drainages and would have minimal to no impact on the existing watershed hydrologically. Compliance with existing regulations, including development and implementation of a SWPPP, would further minimize this potential impact, which would be less than significant during the construction phase, operations phase, and the decommissioning phase.

ii. *substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;*

Less Than Significant Impact.

As explained in Impact Analysis (c)(i) above, construction, operation, and decommissioning of the proposed Project would not result in changes to overall drainages and would have minimal to no impact on the existing watershed hydrologically. The proposed Project site consists of relatively flat terrain, and construction of the proposed Project would not result in substantial grading or drainage modifications. Detailed further in Appendix D (Preliminary Drainage Report), due to there being minimal impact on the existing drainage area, it is expected that hydrologic and hydraulic watershed characteristics would behave similarly after construction of the proposed Project and would not substantially increase the rate or amount of surface runoff.



The proposed Project would introduce a small amount of new impervious surfaces (less than 0.001 percent of the proposed Project site). This minor increase in impervious surfaces would result in a minor increase in runoff, which would be easily absorbed and accommodated by the surrounding environment. The proposed Project would include PV panels and gen-tie lines, which would either be entirely elevated, allowing flood flows to move freely underneath, or would have a minimal footprint underneath when compared to the overall size of the proposed Project. Flows through the proposed Project site would continue to act in a similar fashion to baseline conditions. A less than significant impact in the amount of runoff would occur during the construction phase, operations phase, and the decommissioning phase.

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact.

As explained in Impact Analysis (c)(i) above, construction, operation, and decommissioning of the proposed Project would not result in changes to overall drainages and would have minimal to no impact on the existing watershed hydrologically. Runoff from the proposed Project would be generated primarily through the introduction of new impervious surfaces, which would prevent onsite water from being absorbed by the soils and percolating into the regional groundwater supply. Detailed further in Appendix D (Preliminary Drainage Report), the proposed Project would introduce a small number of impervious surfaces into the region, increasing the amount of impervious surface in the watershed and the proposed Project site by 0.001 percent (approximately 1.3 acres). No new, planned, or existing stormwater drainages are proposed or necessary for the proposed Project. This would result in a less than significant creation or contribution of runoff water during the construction phase, operations phase, and the decommissioning phase.

iv. impede or redirect flood flows?

Less Than Significant Impact.

As explained in Impact Analysis (c)(i) above, construction, operation, and decommissioning of the proposed Project would not result in changes to overall drainages and would have minimal to no impact on the existing watershed hydrologically. The proposed Project would only impede or redirect flood flows by installing hydraulic obstructions within existing floodways. Proposed hydraulic obstructions that would be constructed as part of the proposed Project include fencing and tracker piles. These tracker piles are typically 6 inches wide and spaced 15 to 25 feet on-center. Detailed further in Appendix D (Preliminary Drainage Report), the relatively small footprint of the pier and wide spacing of the tracker piles would have a negligible effect on site hydraulics. The Applicant has indicated that areas with large flow concentrations against site fencing will utilize “flow-through” fencing. This type of fencing allows for large flows to pass through a wider fencing grid, disturbing the flow minimally by introducing 6 inch vertical spacing to allow for larger debris to pass through the fence compared to the standard chain link fabric. This reduces the potential for a “dam” effect. With this consideration, fencing is also assumed to have negligible effect on site hydraulics. Therefore, impacts associated with impeding or redirecting flood flows



would be less than significant during the construction phase, operations phase, and the decommissioning phase.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact.

The proposed Project is located within the Victor Valley, which is not located within a tsunami or seiche zone. People or structures would not be exposed to hazards associated with seiche, tsunami, or mudflow since no large bodies of water exist near the proposed Project site. The Pacific Ocean is approximately 75 miles from the proposed Project site and separated by the barrier of the San Gabriel Mountains. No water bodies capable of producing a seiche are located near the proposed Project site.

Discussed above, and in greater detail in Appendix D (Preliminary Drainage Report), portions of the proposed Project site fall within FEMA Flood Hazard Zone D and Zone X. These areas reflect hazard zones that have a minimal to moderate risk of a 0.2 percent annual chance (100-year) flood each year. This flooding hazard reflects a baseline condition that exists prior to the construction of the proposed Project, and construction of the proposed Project would not alter the existing flood hazard.

The proposed Project would introduce electrical infrastructure mainly consisting of metal construction materials. These materials do not pose a risk of significant pollutant release during flood hazards as no pollutant sources are proposed to be introduced to the region (such as hazardous chemical tanks or fertilizing operations). Additionally, the proposed Project site is currently subject to unauthorized dumping and trash disposal. Installation of the proposed Project would reduce the amount of trash and other pollutants present onsite and would thereby reduce the risk of pollutant release due to project inundation. Therefore, the proposed Project would have a less than significant impact on risk release of pollutants from project inundation during the construction phase, operations phase, and the decommissioning phase.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact.

The proposed Project would obtain water from a municipal source managed by the City of Adelanto. As detailed in the City of Adelanto Urban Water Management Plan (City of Adelanto, 2015), the City sources approximately 94% of its water supply from groundwater wells by accessing the Mojave River Groundwater Basin. The Mojave River Groundwater basin is an adjudicated basin with the Mojave Water Agency as Watermaster. As detailed further in the UWMP, Table ES-5, the City has a projected annual surplus of between 4,722 AF in 2020 to 7,555 AF in 2040. As such, the Project's temporary water demand would be easily accommodated under the existing allotments, and no conflict with a sustainable groundwater management plan could occur. Additionally, it is expected that the majority of water used for the Project would be for the purposes of dust suppression, allowing some of the water to percolate back into the groundwater basin. Described above, the Project would be required under existing rules and



regulations to prepare and implement a SWPPP. Implementation of this SWPPP would ensure that any migration of surface water either on or offsite would not result in impacts to water quality by preventing movement or mobilization of contaminants such as sediment into local waterways.

The proposed Project would be constructed and operated in accordance with all applicable regulations and plans, including regional water quality control plans and sustainable groundwater management plans. As such, the proposed Project would not conflict with or obstruct the implementation of these plans, and no impact would occur during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

During construction, the proposed Project would be required to comply with an National Pollutant Discharge Elimination System (NPDES) construction permit, including the preparation of a SWPPP that requires the incorporation of BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. Additionally, the proposed Project would comply with the waste discharge prohibitions and water quality objectives established by the RWQCB that are incorporated into the project as design features. As such, it is not anticipated that the proposed Project would violate any water quality standards or waste discharge requirements. As the cumulative projects are approximately 1.7 miles to 4.5 miles from the proposed Project and because potential impacts to hydrology and water quality are site-specific, each of the related cumulative projects would either conclude that no or less than significant impacts would occur or would include their own mitigation specific to the unique drainage and water quality characteristics of the individual site and project. Additionally, all related cumulative projects would be required to comply with the provisions contained with their National Pollutant Discharge Elimination System (NPDES) construction permit, including the preparation of a SWPPP. Therefore, based on the absent potential to combine with other projects' impacts, the proposed Project would not have cumulatively considerable hydrology and water quality impacts.



3.11 LAND USE AND PLANNING

3.11.1 Setting

Discussed above in Section 2.1.2, Surrounding Land Uses, the proposed Project site consists of rural undeveloped land located on the northwestern side of the City. The proposed Project site is not being used for any particular use or activity as it is currently vacant and subject to unauthorized trash dumping and off-highway vehicle use. The site is relatively flat through the majority of the proposed Project area, with a gradual slope from southeast to northwest from approximately 2,820 to 2,750 feet amsl. Land use within and surrounding the proposed Project area is limited to sparse rural residential development and open space with a few unpaved roads across the site. See Table 14 for the proposed Project area's surrounding land use designations.

Table 13: Surrounding Land Use Designations

Relationship to Project Site	Existing Land Description	Land Use Zoning District
Project Site	Vacant undeveloped land, unpermitted dumping and OHV	• OS (Open Space) • DL 5 (Desert Living 5) • DL 2.5 (Desert Living 2.5)
Generation Tie Lines	Vacant undeveloped lands, franchise right-of-way	• DL 5 (Desert Living 5) • DL2.5 (Desert Living 2.5) • R-S1 (Single Family Residential) • R-S5 (Single Family Residential) • LM (Light Manufacturing) • MU (Mixed Use) • R-M12 (Medium Density Residential)

Note:
OHV = off-highway vehicles

3.11.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Discussion of Impacts

a) Physically divide an established community?

No Impact.

The proposed Project site and proposed gen-tie routes are surrounded by General Agricultural land uses and are not located within any designated planning boundary. Only limited residential uses occur in the vicinity of the proposed Project site, consisting of scattered rural farm residences. As a whole, the proposed Project area lacks any established community. As such, development of the proposed Project would not physically divide any community. Therefore, no potential impacts associated with physically dividing an established community would result during the construction phase, operations phase, and decommissioning phase.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact.

This impact assesses the City of Adelanto's General Plan, which incorporates the Southern California Association of Governments' (SCAG's) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) relevant goals, objectives, and policies to determine if the proposed Project would be consistent with the agency's plans.

Concurrent with the Adelanto North 2035 Comprehensive Sustainable Plan's adoption, the City has amended the City of Adelanto's General Plan and Zoning Code for consistency with the Adelanto North 2035 Comprehensive Sustainable Plan. However, if the plan's goals, policy, and programs differ from or conflict with the policy contained in the Adelanto General Plan or any other applicable City regulation, rule, or policy, the Adelanto North 2035 Comprehensive Sustainable Plan shall prevail unless otherwise indicated. Therefore, the Planning Division staff shall resolve any issues that may arise with the interpretation of the Adelanto North 2035 Comprehensive Sustainable Plan.

The Adelanto North 2035 Comprehensive Sustainable Plan permits the construction of solar facilities on property designated and zoned as Light Manufacturing (LM) and Manufacturing/Industrial (MI). The subject property is contained primarily within the Desert Living zones (DL-5 and DL-2.5) with a portion located within the Open Space (OS) land use designation. While power generating facilities (>500 Kw) are allowed in the OS zones with a CUP, they are currently not allowed in the Desert Living areas. Therefore, the proposed Project includes a Location and Development Plan, (LDP), Solar Energy Overlay Zone and Conditional Use Permit (CUP) pursuant to a Zoning Code Amendment, (ZCA) and General Plan Amendment/ Zone Change (GPA/ZC) allowing the use of site-specific solar overlay zones for utility-scale project within City limits.

Table 15 summarizes the proposed Project's consistency with all applicable objectives, goals, policies, and specific actions of the Adelanto North 2035 Comprehensive Sustainable Plan. Based on the



consistency analysis provided below, the proposed Project would be consistent with the goals and policies of the Adelanto North 2035 Comprehensive Sustainable Plan, as well as SCAG's RTP/SCS. Therefore, this impact would be less than significant during the construction phase, operations phase, and the decommissioning phase.

Table 14: Adelanto North 2035 Comprehensive Sustainable Plan Consistency Analysis

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Land Use and Community Design	Goal LC 1	A variety of business opportunities and housing choices are available that make it easier for persons of all income ranges to live, work, and recreate in Adelanto North.	**Consistent.** The applicant has requested CUP and site-specific solar overlay designation pursuant to a zoning code and general plan amendment.. The proposed Project would provide a new, alternative energy facility within the City with employment opportunities for construction and ongoing facility maintenance.
	Policy LC 1.1	Accommodate a range of land use designations to meet the residential, economic, educational, and social needs of current and future residents, business owners, and local employees in accordance with Figure LC-2.	**Consistent.** The proposed Project overlay and associated code and general plan amendment would be consistent with the City's land use and density/intensity designations. This conversion would allow for the opportunity of a mix of residential and nonresidential land uses.
	Policy LC 1.4	Require sustainable practices and the use of sustainable methods in all site, lotting, and circulation planning.	**Consistent.** The proposed Project is a solar facility and by its nature incorporates sustainable development approaches .
	Goal LC 4	Sustainability incorporated into land use patterns and development approaches.	**Consistent.** The proposed Project is a solar facility and by its nature incorporates sustainable development approaches.
	Policy LC 4.4	Promote the use of solar, wind, and other alternative energy generation systems as part of the new planned development.	**Consistent.** The proposed Project would develop a clean, renewable energy generation system through the construction, operation, and decommissioning of a solar energy generation facility and as such, promotes the use of alternative energy.
	Policy LC 4.6	Accommodate renewable energy generation facilities within the Public Utilities, Business Park, Light Manufacturing,	C**onsistent.** The proposed Project would develop a clean renewable energy generation system through the construction, operation, and decommissioning of a solar energy generation facility and as such, promotes the use of alternative energy. Although this use is not currently permitted within the existing land use and zoning designations, it would be after the



Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		and Manufacturing/Industrial Land Use Designations.	approval of a CUP and solar zone overlay pursuant to a zoning code and general plan amendment.
Land Use and Community Design	Goal LC 5	Adequate infrastructure to meet new development growth.	**Consistent.** The proposed Project is unmanned and has minimal infrastructure demands adequately served by the City under current conditions.
	Policy LC 5.1	Require new development to pay its fair share of the cost of public facilities, services, and infrastructure, including but not limited to transportation, incremental water supply, sewer and wastewater treatment, solid waste, flood control and drainage, schools, fire and police protection, and parks and recreation.	**Consistent.** The Applicant would pay their fair share of fees, as required.
	Policy LC 5.3	Allow development outside of Growth Area 1 only if the applicant and/or developer provides for the construction and maintenance of extending infrastructure and public facilities beyond Growth Area 1.	**Consistent.** As the Project is located outside of Growth Area 1, the applicant would provide for the construction and maintenance of required infrastructure.
	Policy LC 6.1	Minimize direct or indirect impacts to sensitive biological resources while optimizing the potential for mitigation.	**Consistent.** This Initial Study evaluates potential impacts to biological resources, and mitigation measures have been provided to reduce impacts to less than significant levels. As such, the Project minimizes direct and indirect impacts to biological resources.
	Policy LC 6.2	Protect and enhance the natural environment features in Adelanto North 2035 Comprehensive Sustainable Plan by Preserving open space resources as habitat resources.	**Consistent.** This Initial Study evaluated potential impacts to biological resources, and mitigation measures have been provided to reduce impacts to less than significant levels. As such, the Project would preserve open space for habitat resources by way of compensatory mitigation and wildlife friendly fencing.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Land Use and Community Design	Policy LC 6.3	Provide greenbelt corridors for drainages and utility easements that protect natural drainages, including Fremont Wash, and accommodate transmission of energy and fuel resources.	**Consistent.** The Project would be designed to ensure that corridors would be provided for drainages and utility easements.
	Policy LC 6.4	Establish a habitat mitigation bank in accordance with policies and programs established in the Open Space and Conservation Chapter.	**Consistent.** This Initial Study evaluated potential impacts to biological resources, and mitigation measures have been provided to reduce impacts to less than significant levels. Mitigation measures that specifically provide for habitat mitigation land are also provided.
	Goal LC 7	Passive solar design and green building practices take advantage of the City's solar and wind conditions.	**Consistent.** The proposed Project would develop a clean renewable energy generation system through the construction, operation, and decommissioning of a solar energy generation facility and as such, promotes the use of alternative energy and takes full advantage of the City's solar conditions. The project would be unmanned with no offices or residences.
	Policy LC 7.1	Encourage the design and construction of buildings to go beyond the requirements of the CalGreen Building Code.	**Consistent.** The proposed Project would generate renewable energy that would help reduce the state's dependence on more polluting sources of energy, resulting in improved air quality. The project would be unmanned with no offices or residences.
	Policy LC 7.2	Orient buildings to take advantage of solar gain, thus allowing the absorption of the sun's heat during colder months while minimizing the sun's heat during warmer months.	**Consistent.** The proposed Project would develop a clean renewable energy generation system through the construction, operation, and decommissioning of a solar energy generation facility and as such, would be designed to take advantage of the city's solar resource. The project would be unmanned with no offices or residences.
	Policy 7.18	Minimize or eliminate construction waste. Encourage the reduction, reusing, and/or recycling of waste materials to minimize disposal to a landfill.	**Consistent.** The proposed Project would have minimal construction waste and as such, would send minimal disposal waste to landfills.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Land Use and Community Design	Goal LC 17	A more aesthetically pleasing environment with landscaping materials that reflect the Mojave Desert environment.	**Consistent.** The proposed Project would develop an approximately 1,197-acre solar energy generation facility and may include some drought-tolerant landscaping or other low-maintenance xeriscape features.
	Policy LC 17.1	Use landscaping to reflect 'a sense of place' that blends in with the Mojave Desert and native plant materials.	**Consistent.** The proposed Project would develop an approximately 1,197-acre solar energy generation facility and may include some drought-tolerant landscaping or other low-maintenance xeriscape features.
	Policy LC 17.2	Provide landscaping plants and materials that complement the Mojave Desert Environment and wildlife, lower maintenance requirements, and require low to moderate irrigation requirements.	**Consistent.** The proposed Project would develop an approximately 1,197-acre solar energy generation facility and may include some drought-tolerant landscaping or other low-maintenance xeriscape features.
	Policy 17.3	Use plants that are native to the Southwest and suited to the hot desert climates.	**Consistent.** The proposed Project would develop an approximately 1,197-acre solar energy generation facility and may include some drought-tolerant landscaping or other low-maintenance xeriscape features.
Economic Development	Goal ED 1	A diverse, sustainable economy	**Consistent.** The proposed Project would create new construction and facility maintenance jobs that would help the economic growth of the community.
	Policy ED 1.2	Look to attract and to capitalize on the City's available land resources	**Consistent.** The proposed Project would be developed on underutilized land and would create sustainable economic growth within the City.
	Policy ED 1.5	Pursue opportunities in industrial zones to attract green technology manufacturing, particularly building upon Adelanto's solar farm development activity.	**Consistent.** The proposed Project would develop a solar farm that would build upon the City's green technology manufacturing and solar development activity.
Mobility	Policy M 1.9	Require developers to construct or pay their fair share toward improvements for all modes consistent with this Mobility Chapter, and specific impacts	**Consistent.** The Applicant will pay their fair share of fees, as required.



Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		associated with their development.	
Open Space and Conservation	Goal OS 1	Natural resources including land features, viewsheds, and drainages are strategically preserved.	**Consistent.** The proposed Project would not include any features that would obstruct viewsheds. Drainages would be strategically preserved with the implementation of mitigation measures.
	Policy OS 1.2	Preserve drainages and washes in their natural state or limit concrete-lined channels to protect the community from flooding hazards and enhanced conservation.	**Consistent.** Drainages and washes would be strategically preserved to protect against flooding hazards with the implementation of mitigation measures.
	Policy OS 1.3	Preserve views of the desert landscape and existing topography and landforms including the Shadow Mountains.	**Consistent.** The proposed Project would not include any features that would obstruct viewsheds.
	Goal OS 2	Open spaces, sensitive biological resources, native habitat, and vegetation communities that support wildlife species are identified, protected, and restored.	**Consistent.** This Initial Study evaluated potential impacts to biological resources, and mitigation measures have been provided to reduce impacts to less than significant levels. Mitigation measures that specifically provide for habitat mitigation land are also provided.
	Policy OS 2.1	Survey and map potential habitat for sensitive biological resources, including special-status plant and wildlife species and sensitive natural communities.	**Consistent.** Through extensive surveying and mapping, this Initial Study evaluated potential impacts to biological resources, and mitigation measures have been provided to reduce impacts to less than significant levels. Mitigation measures that specifically provide for habitat mitigation land are also provided.
	Policy OS 2.3	Ensure that new development and major transportation projects minimize encroachment into sensitive desert habitats and minimize direct or indirect impact to sensitive biological resources while optimizing the potential for mitigation.	**Consistent.** This Initial Study evaluated potential impacts to biological resources, and mitigation measures have been provided to reduce impacts to less than significant levels. Mitigation measures that specifically provide for habitat mitigation land are also provided.
	Goal OS 3	Energy conservation and renewable energy production is maximized to reduce	**Consistent.** The proposed Project would develop a clean renewable energy generation system through the construction, operation, and decommissioning of a solar energy generation facility.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
		natural resources and fossil fuels consumption.	
Open Space and Conservation	Policy OS 3.8	Conserve energy by promoting efficient and cost-effective lighting that reduces glare and light pollution.	**Consistent**. Proposed Project lighting would be installed for ongoing maintenance and security purposes. Low-level lighting would be installed at entry and egress gates around the facility. All proposed Project lighting would be shielded and directed downward to avoid light trespass and minimize the potential for glare or spillover onto adjacent properties. Project lighting would not be activated when the station is unmanned.
	Goal OS 4	Water consumption is reduced through aggressive implementation of conservation policies and programs.	**Consistent.** Construction water needs would be limited to soil conditioning and dust suppression. Potable water would be brought to the proposed Project site for drinking and domestic needs.
	Policy 4.2	Encourage the use of drought-tolerant, desert-friendly, and low water consuming landscaping as a means of reducing overall and per capita water demand.	**Consistent.** The proposed Project would develop an approximately 1,197-acre solar energy generation facility and may include some drought-tolerant landscaping or other low-maintenance xeriscape features.
	Goal OS 5	Land use and water supply planning processes are coordinated so that adequate water supplies are available for proposed development.	**Consistent.** Adequate water is available for proposed Project construction, operation, and ongoing maintenance.
	Policy OS 5.1	Require new development outside the boundary of Growth Area 1 to demonstrate that adequate water is available before project approval and to fund its fair-share costs associated with the provision of water service.	**Consistent.** Adequate water is available for proposed Project construction, operation, and ongoing maintenance.
	Goal OS 6	Local air quality is good; local contributions of airborne pollutants to the air basin are reduced.	**Consistent.** The proposed Project would be required to adhere to applicable rules and regulations of the MDAQMD.

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
Open Space and Conservation	Policy OS 6.3	Require projects that generate potentially significant levels of air pollutants and odors to incorporate the most effective air quality mitigation into project design, as feasible.	**Consistent.** The Project is a clean energy solar facility, which would incorporate measures to reduce air pollution during construction in accordance with applicable rules and regulations of the MDAQMD. During operation, the proposed Project would contribute to the generation of renewable energy and as such, would reduce the state's dependence on more polluting sources of energy. Ultimately, this would reduce air pollution and GHG emissions.
	Goal OS 10	Cultural and historical resources are protected and preserved.	**Consistent.** The proposed Project would incorporate mitigation measures to ensure protection and preservation of any cultural or historical resources in cases where they are encountered.
	Policy OS 10.1	Identify, protect, and minimize impacts to archaeological and paleontological resources.	**Consistent.** The proposed Project would incorporate mitigation measures to ensure protection and preservation of any archaeological or paleontological resources in cases where they are encountered.
Public Facilities and Infrastructure	Goal PF 1	Sufficient water sources and quality to meet current and projected use requirements.	**Consistent.** Adequate water is available for proposed Project construction, operation, and ongoing maintenance.
	Policy PF 1.5	Require developers to minimize water use through the use of efficient irrigation methods, drought-tolerant plants, and water reuse systems.	**Consistent.** The proposed project's operational water demands are de minimis.
	Goal PF 2	Reliable recycled water distribution system.	**Consistent.** The proposed project's operational water demands are de minimis and do not necessitate use of a recycled water system.
	Policy PF 2.3	Require developers to construct recycled water systems and connect to the existing infrastructure.	**Consistent.** The proposed project's operational water demands are de minimis and do not necessitate use of a recycled water system.
Public Facilities and Infrastructure	Goal PF 5	Storm drainage and flood control facilities provide life protection and structure protection against flooding.	**Consistent.** The proposed Project would only impede or redirect flood flows by installing hydraulic obstructions within existing floodways, and mitigation measures would limit such potentially significant impacts. Proposed hydraulic obstructions that would be constructed as part of the proposed Project include fencing and tracker piles. These tracker piles are typically 6 inches wide and spaced 15 to 25 feet on-center. The relatively small footprint of the pier and wide spacing of the tracker piles would have a negligible effect on site hydraulics. Areas with large flow concentrations against site fencing will use "Flow-through" fencing. This type of fencing allows for large flows to pass through a wider fencing grid, disturbing the flow minimally. With this consideration, fencing is also assumed to have negligible effect on site hydraulics.



Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	
	Policy PF 5.4	Encourage developers to minimize impervious surfaces to reduce stormwater runoff and increase flood protection.	**Consistent.** Runoff from the proposed Project would be generated primarily through the introduction of new impervious surfaces, which would prevent onsite water from being absorbed by the soils and percolating into the regional groundwater supply. Detailed further in Appendix D (Preliminary Drainage Report), the proposed Project would introduce a small number of impervious surfaces into the region, increasing the amount of impervious surface in the watershed and the Project site by 0.001 percent.
	Policy PF 5.6	Enforce requirements for new construction's protection against flooding.	**Consistent.** The proposed Project would comply with all applicable standards and requirements regarding protection against flooding.
	Goal PF 6	Sustainable stormwater management practices.	**Consistent.** The proposed Project site is relatively flat, and construction of the Project would not result in substantial grading or drainage modifications. Because there would be minimal impact on the existing drainage area, it is expected that hydrologic and hydraulic watershed characteristics would behave the same after construction of the proposed Project and would not substantially increase the rate or amount of surface runoff.
	Policy PF 6.4	Ensure developers comply with current standards for stormwater management and consistent with State Water Resources Control Board Requirements.	**Consistent.** The proposed Project would comply with all applicable standards and requirements for stormwater management, including implementation of a SWPPP.
Public Health and Safety	Goal HS 1	Potential damage to structures and loss of life that can result from earthquakes and other geologic hazards are minimized.	**Consistent.** The proposed Project would incorporate design features to minimize the risk of loss and life due to earthquakes or other geologic hazards.
Public Health and Safety	Policy HS 1.2	Enforce the most recent building codes governing seismic safety and structural design to minimize damage from earthquakes.	**Consistent.** The Project would be constructed in compliance with all applicable building codes governing seismic safety.
	Goal HS 2	Property damage, injuries, and loss of life from fire are minimized.	**Consistent.** The Project is not located in a VHFHSZ nor is it in an area where nearby wildland areas are present. As such, there would be minimal risk of loss of property damage, injury, and loss of life as a result of proposed Project implementation.

Notes:

City = City of Adelanto

CUP = conditional use permit

Element	Goal/Objective/Policy		Consistency Determination
	No.	Text	

GHG = greenhouse gas
MDAQMD = Mojave Desert Air Quality Management District
PV = photovoltaic
VHFHSZ = Very High Fire Hazard Severity Zone

The proposed code amendment associated with the proposed Project would not conflict with California Senate Bill 330 (SB 330), which prohibits downzoning in existing residential zones, such as by reducing residential density limits or prohibiting residential uses altogether. Instead of impermissibly limiting or otherwise restricting residential uses, the amendment would continue to allow for residential development in addition to other allowable uses, without any changes to residential use regulations. Adopting a solar energy overlay for use on top of a pre-existing zone does not restrict allowable residential uses in any zone of the City of Adelanto. The California Department of Housing and Community Development concurred with the proposed code amendment's SB-330 consistency on August 18, 2020.

Cumulative Impacts

The proposed Project-level analysis concluded that impacts to land use and planning were less than significant and do not require mitigation. Additionally, the related cumulative projects are situated in a manner that a potential land use conflict at one project site would be unlikely to affect another site. Although the proposed Project's proposed code amendment may ultimately facilitate the development of additional solar projects, at this time no such projects are probable or even reasonably foreseeable. Moreover, any future solar project relying on the proposed code amendment would undergo its own CEQA review to ensure consistency with land use and planning standards. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to land use and planning. Therefore, the proposed Project's contribution to cumulative land use and planning impacts would be less than cumulatively considerable.



3.12 MINERAL RESOURCES

3.12.1 Setting

In accordance with the Open Space and Conservation Element of the Adelanto North 2035 Comprehensive Sustainable Plan, the City is required to provide for the conservation, development, and utilization of mineral resources. To comply with the requirements, the state's Surface Mining and Reclamation Act of 1975 (SMARA) was enacted for the purpose of establishing mineral resource management policies within the general plan by local agencies.

The State Geologist mapped the Adelanto area for aggregate resources, which includes rock, sand, and gravel. There are currently four main regionally significant Mineral Resource Zone (MRZ) categories designated by the State Geologist of varying significance. These categories are MRZ-1 through MRZ-4; defined as follows:

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood of their presence exists.
- **MRZ-3:** Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources.

The proposed Project area is designated as MRZ-4, where inferred occurrences of resources are of undetermined significance or have not been studied for the presence of aggregate material resources (DOC 1994). There are no mineral resource zones in the City that are of statewide or regional significance. The Adelanto North 2035 Comprehensive Sustainable Plan (Adelanto 2014) does not contain information on known mineral resources within the City or contain specific land uses and/or zoning for mineral extraction.

3.12.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES — Would the project:				
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion of Impacts

a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?

No Impact.

According to mapping conducted by the State of California Department of Conservation, Division of Mines and Geology (DOC 1994), there are no known mineral resources classified as MRZ-2 by the State Geologist within the City or within the proposed Project footprint. Construction, operation, and decommissioning of the proposed Project would not result in a loss of availability of mineral resources during the construction phase, operations phase, and the decommissioning phase.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact.

The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site. Neither the proposed Project site nor the surrounding properties, including the proposed gen-tie routes, are designated by the State as an MRZ, and no economically viable mineral deposits are known to be present. No mineral resources have been identified by the Adelanto North 2035 Comprehensive Sustainable Plan (Adelanto 2014) at the proposed Project site or the immediate vicinity; therefore, no impacts related to a locally-important mineral recovery site would result during the construction phase, operations phase, and decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that no impacts to mineral resources would occur. Because none of the related cumulative projects are located on lands identified as MRZs, none of these projects would result in impacts to mineral resources. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to mineral resources. Therefore, the proposed Project's contribution to cumulative mineral resources impacts would be less than cumulatively considerable.

3.13 NOISE

3.13.1 Setting

Definition of Noise

Noise is generally defined as unwanted sound that annoys or disturbs people or noise-sensitive biological resources (such as nesting birds) and potentially causes an adverse psychological or physiological effect on human health.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale is a logarithmic scale and is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called A-weighting, written as dBA and referred to as A-weighted decibels. Table 16 defines sound measurements and other terminology used in this section and Table 17 summarizes typical A-weighted sound levels for different noise sources.

In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level (based on position to the sound level). Audible changes in the existing ambient or background noise levels are considered potentially significant.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (Leq), the minimum and maximum sound levels (Lmin and Lmax, respectively), percentile-exceeded sound levels (Lxx, shown as specific percentages such as L10 or L20), the day-night sound level (Ldn), and the community noise equivalent level (CNEL). Ldn and CNEL values differ by less than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (FHWA 2011). Atmospheric conditions, including wind, temperature, and humidity, can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1-2 dB per doubling of distance. Barriers such as



buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Table 15: Definition of Sound Measurement

Sound Measurements	Definition
Decibel (dB)	A measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
C-Weighted Decibel (dBC)	The sound pressure level in decibels as measured using the C-weighting filter network. The C-weighting is very close to an unweighted or flat response. C-weighting is only used in special cases when low-frequency noise is of particular importance.
Maximum Sound Level (Lmax)	The maximum sound level measured during a specified period of time.
Minimum Sound Level (Lmin)	The minimum sound level measured during a specified period of time.
Equivalent Sound Level (Leq)	The equivalent steady state sound level equal to acoustical energy averaged over time.
Percentile-Exceeded Sound Level (Lxx)	L10 is the sound level exceeded 10% of the time. L90 is the sound level exceeded 90% of the time. L90 is often considered to be representative of the background noise level in a given area.
Day-Night Level (Ldn)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM.
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches per second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Source: Stantec 2014

Table 16: Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet flyover at 1,000 feet	110	Rock band
Gas lawnmower at 3 feet	100	Food blender at 3 feet
Diesel truck at 50 feet at 50 MPH	90	Garbage disposal at 3 feet



Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Noisy urban area, daytime	80	Vacuum cleaner at 10 feet
Gas lawnmower, 100 feet	70	Normal speech at 3 feet
Commercial area	60	Large business office
Heavy traffic at 300 feet	50	Dishwasher in next room
Quiet urban daytime	40	Theater, large conference room (background)
Quiet urban nighttime	30	Library
Quiet suburban nighttime	20	Bedroom at night, concert hall (background)
Quiet rural nighttime	10	Broadcast/recording studio

Notes:
dBA = A-weighted decibels
MPH = miles per hour
Source: Stantec 2014.

Decibel Addition

Since decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one source produces a sound pressure level of 70 dBA, two identical sources would not produce 140 dBA but would combine to produce 73 dBA. The cumulative sound level of any number of sources can be determined using decibel addition.

Vibration

Operation of heavy construction equipment, particularly pile driving and other impact devices such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance results in different vibration levels that contain different frequencies and displacements. In all cases, vibration amplitudes decrease with increasing distance.

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as peak particle velocity (PPV).

Table 18 summarizes typical vibration levels generated by construction equipment (DOT 2006).



Table 17: Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 feet
Pile driver (impact)	0.644 to 1.518
Pile drive (sonic/vibratory)	0.170 to 0.734
Vibratory roller	0.210
Hoe ram	0.089
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Notes:
PPV = peak particle velocity
Source: Federal Transit Administration 2006

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions (DOT 2006). PPVref is the reference PPV from Table 18.

$$PPV = PPVref \times (25/Distance)\ 1.5$$

Table 19 summarizes guideline vibration annoyance potential criteria suggested by California Department of Transportation (Caltrans) (Caltrans 2004).

Table 18: Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec) Transient Sources	Continuous/Frequent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes:
Transient sources create a single isolated vibration event, such as blasting or drop balls.
Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
in/sec = inches per second
PPV = peak particle velocity
Source: Caltrans 2004

Table 20 summarizes guideline vibration damage potential criteria suggested by Caltrans (Caltrans 2004).



Table 19: Guideline Vibration Damage Potential Criteria

Structure and Condition	Maximum PPV (in/sec) Transient Sources	Continuous/Frequent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structure	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes:
Transient sources create a single isolated vibration event such as blasting or drop balls. Continuous or frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
in/sec = inches per second
PPV = peak particle velocity
Source: Caltrans 2004

Existing Noise Conditions

The existing noise environment in the proposed Project area is characterized by the area's general level of development. Areas that are not urbanized are relatively quiet, while areas that are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities. Table 21 summarizes typical ambient noise levels based on level of development. Given the rural nature of the proposed Project area, baseline ambient noise levels at the nearest residences are likely to be in the range of 50 Ldn, given the local windspeeds, high amount of both road and OHV use, and frequent recreational sport shooting in the vicinity of the Project site, baseline noise levels are assumed to be approximately 55-60 Ldn.

Table 20: Population Density and Associated Ambient Noise Levels

Population Density	dBA, Ldn
Rural	40-50
Small town or quiet suburban residential	50
Normal suburban residential	55
Urban residential	60
Noisy urban residential	65
Very noisy urban residential	70
Downtown, major metropolis	75-80
Area adjoining freeway or near major airport	80–90

Population Density	dBA, Ldn

Notes:
dBA = A-weighed decibels
Ldn = day-night level
Source: Hoover and Keith 2000

Noise levels in the vicinity of the proposed Project are documented in the Noise Element of the City of Adelanto General Plan (and in Table 22). Additionally, future projections for growth in the City are also detailed in the Noise Element (and in Table 23). Existing conditions were modelled within 1 mile of the proposed Project site and have been applied to the roadways adjacent to the proposed Project site to provide an estimate of existing conditions.

Table 21: Existing Roadway Noise Levels

Roadway	ADT	CNEL 100 feet from Roadway Centerline	Noise Contour Distance (feet) from Roadway		
			70 dBA	65 dBA	60 dBA
US-395	5,400	61	3	56	124
El Mirage	1,500	56	--	--	49
Air Base	1,500	56	--	--	49
Palmdale	4,200	59	--	--	103

Notes:
ADT = average daily trips
dBA = A-weighted decibels
CNEL = community noise equivalent level
Source: City of Adelanto General Plan Noise Element 1993

Table 22: Future 2010 Projected Noise Contours

Roadway West of New 395	ADT	CNEL 100 feet from Roadway Centerline	Distance to Contour (feet)		
			70 dBA	65 dBA	60dBA
El Mirage	24,000	67	70	154	312
Air Base	35,000	69	90	190	370
Mojave	35,000	69	90	190	370
Palmdale	25,000	68	73	157	315

Notes:
ADT = average daily trips
dBA = A-weighted decibels
CNEL = community noise equivalent level
Source: City of Adelanto General Plan Noise Element 1993

In addition to the information contained in the Noise Element of the General Plan, the City of Adelanto Municipal code contains performance standards. These standards include the following:



City of Adelanto Noise Standards

The noise standards contained in Table VIII-2, "Land Use Compatibility Guidelines Related to Noise Exposure" in the Noise Element of the General Plan shall apply to land uses city-wide and shall be used to define acceptable and unacceptable noise levels.

Exempt Noises

- Construction activity on private properties that are determined by the Building Official to be essential to the completion of a project, and are in compliance with Section 17.90.020(d)(1) of this Chapter.
- Construction activity and equipment maintenance is limited to the hours between 7:00 AM to dusk on weekdays. Construction may not occur on weekends or state holidays without prior consent of the Building Official. Non-noise generating activities (e.g., interior painting) are not subject to these restrictions. City and state construction projects, such as road rebuilding or resurfacing, and any construction activity that is in response to an emergency, shall be exempt from this requirement.

Designated Truck Routes

Construction routes are limited to City-designated truck routes. These routes are defined in the City of Adelanto Municipal Code Section 10.22.030 (Truck Routes–Designated) and are as follows:

- Palmdale Road (Highway 18) in its entirety within the City limits.
- US-395 in its entirety within the City limits.
- Rancho Road in its entirety within the City limits.
- Koala Road in its entirety within the City limits.
- Air Expressway Road in its entirety within the City limits.
- Adelanto Road from Air Expressway to US-395.
- All roads within established industrial parks.
- All roads providing direct access to established businesses in manufacturing industrial zoned properties.

Vibration Standard

No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the subject property line, nor will any vibration be permitted that produces a particle velocity greater than or equal to two-tenths of an inch per second measured at or beyond the lot line.



3.13.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion of Impacts

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact.

The total construction time for the proposed Project is approximately 18 months. The construction activities necessary for the proposed Project are described in Section 2.0, Project Description. The equipment that is expected to be used during construction, along with the noise levels generated form the FHWA Roadway Construction Noise Model (RCNM) are presented in Table 24 below.

Lmax sound levels at the nearest sensitive receptor are shown along with the typical acoustical use factor. The acoustical use factor is the percentage of time each piece of construction equipment is assumed to be operating at full power during construction and is used to estimate Leq values from Lmax values. For example, the Leq value for a piece of equipment that operates at full power 50% of the time (acoustical use factor of 50) is 3 dB less than the Lmax value.

Table 23: Summary of Federal Highway Administration Roadway Construction Noise Model

Source	Approximate Distance to Nearest Residence (Property Line to Construction Site) (feet)	Sound Level at Residence		
		Lmax	Acoustical Use Factor (%)	Leq
Backhoe	400	59.5	40	55.5
Compactor (ground)	400	65.2	20	58.2
Compressor (air)	400	59.6	40	55.6
Crane	400	62.5	16	54.5
Dozer	400	63.6	40	59.6
Excavator	400	62.6	40	58.7
Generator	400	62.6	50	59.6
Grader	400	66.9	40	63
Impact Pile Driver	400	83.2	20	76.2
Offroad Fork Lift	400	66.9	40	63
Pickup Truck	400	56.9	40	53
Roller	400	61.9	20	54.9
Tractor	400	65.9	40	62
Trencher	400	83.9	20	76.9
Water Truck	400	61.9	40	58

Source: U.S. DOT 2019

A reasonable worst-case noise condition for general construction activity (excluding pile driving or trenching) is that a grader, dozer, and compactor would operate simultaneously, at the extreme edge of the Project site closest to nearby residences. This represents a conservative scenario, as it assumes that all three pieces of equipment would be operating at the same time and same place when in actuality, construction would occur in sequential phases; thus, it is not likely that the three loudest pieces of equipment would be operating simultaneously at the exact location of the proposed Project site closest to the nearest residence. Should such an unlikely worst-case noise condition occur, the nearest residence would experience sound levels of approximately 66.9 Lmax and 65.5 Leq.

Typically, construction activities would occur away from both the proposed Project boundaries and the residences and closer to the central portion of the proposed Project site where the bulk of the solar PV



arrays would be installed. As construction equipment moves away from the project boundaries and the residences, the noise levels from construction equipment would decrease. Table 25 illustrates the effect that increasing the distance between vibratory pile driver and sensitive receptor would have on noise levels. The noise levels modeled are based on use of a vibratory pile driver with average industry specifications. However, the Applicant is proposing to use a smaller than average industry standard pile driver that would operate with less intensity than the average industry standard pile driver and would produce less noise and vibration impacts.

The City's municipal code contains requirements for construction-related noises. According to Section 17.90.020(d)(1), construction activities for the proposed Project shall be restricted to the hours between 7:00 AM to dusk on weekdays, and construction will not occur on weekends or state holidays.

A gen-tie line(s) would be installed to convey the electricity from the solar facility to the previously approved collector substation. These lines can produce an electrical discharge typically referred to as the corona effect. Corona-generated audible noise is characterized as a crackling, hissing, or humming noise, and is most noticeable during wet conductor conditions, such as rain or fog. During fair weather, audible noise is generally barely perceptible. During wet weather this noise is approximately 50 dBA for a 500 kV line and under 40 dBA near the ROW edge for an overhead 230 kV transmission lines. The 115 kV lines proposed as part of this Project would emit far less noise. It is not expected that noise generated by these lines would generate noise at a level that would increase ambient noise levels.

Operations of the solar panels would be nearly silent, with small amounts of noise onsite caused by the tracking motors. The average sound level of tracker motors at a distance of one foot is 58 dBA and at a distance of 10 feet it is reduced to 46.5 dBA, at which point it is generally no longer discernable from background noise. The tracker motors would be located within each solar array. Trackers are automatically reset to face east either at sunset or at sunrise the next morning.

Maintenance would include panel washing twice a year and other preventative maintenance activities. Panel washing would occur over several days and would require water supplied by a water truck. The sound level potentially produced by this operation is not known; however, sound data from a car wash would likely be similar and indicates that the washing operation produces a sound level of about 68 dBA at 50 feet. With the nearest residence at least 100 feet from where washing could occur, this noise level would reduce to about 65 dBA, which is within the City daytime noise standard and is not likely to be audible above the ambient sound level. In addition, washing would be a short-term and infrequent maintenance activity.

Inverter/distributor transformers would be located within the solar panel fields on the Project site but not along the gen-tie routes. The inverter equipment identified for the project generates low noise levels. In addition, this equipment would be housed in structures constructed on a level concrete building pad, with nonflammable wall and roof materials (i.e., concrete), which would further reduce any noise levels. The noise-producing features during proposed Project operation would include the inverter/distributor transformers and the electrical substation. The inverter/distributor transformers would be located within the solar panel fields; this equipment generates noise levels of less than 65 dBA at the source.



Transformers within the proposed switchgear area typically generate noise levels of approximately 74 dBA at 4 feet away. The proposed switchgear would be located at least 500 feet from the nearest residences, therefore and noise generated by the transformers would be outside the audible range for human hearing. The inverter/distributor transformers and substations would operate only during daytime hours when the project is generating power. Therefore, there would be no noise during the evening and nighttime hours when receptors are more sensitive. The proposed Project includes the operation of an onsite switchgear area that would not generate noise levels. The transformer noise levels would decrease to levels less than significant due to sound being dampened by the walls of the substation structure and the distance to the nearest receptors.

Construction of the proposed Project would take place within the hours and standards specified by the City's municipal code, which exempts construction noise from the ordinance performance standards if construction takes place within the specified hours and days of the week (7:00 AM to dusk on weekdays). Therefore, construction, operation, and decommissioning of the proposed Project would not result in a generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance during the construction phase, operations phase, and the decommissioning phase.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Table 25 summarizes a general estimation of ground vibration from typical construction equipment at several distances based on methods specified in the Federal Transit Administration's Transit Noise and Vibration Impact Assessment (FHWA 2006).

Table 24: Vibration from Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0396
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Note:
PPV = peak particle velocity
Source: FHWA 2006



The solar panels would be supported by metal piers that would be driven into the ground by a vibratory pile driving machine. The nearest residence to the proposed Project site would be at least 400 feet from the nearest solar panel and associated pile driving. The results above indicate that vibration from pile driving at 100 feet would be 0.0918 PPV. As described above, this level of vibration is closer to barely perceptible (0.04) than distinctly perceptible (0.25).

This vibration is well below the strongly perceptible annoyance criteria and potential residential vibration damage criteria thresholds listed in the City of Adelanto Municipal Code Section 17.90.030 (vibration). This threshold requires that no vibration greater than 0.2 PPV be felt at or beyond the lot line. The proposed Project therefore is not considered to result in exposure of people to excessive ground vibration. Impacts associated with decommissioning would be similar to those associated with construction.

No activities would occur during the operations phase that would produce groundborne vibration or groundborne noise. Therefore, less than significant impacts from phase groundborne vibration and groundborne noise would result during the construction phase, operations phase, and the decommissioning phase.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact.

The proposed Project is not located within the vicinity of a private airstrip or an airport land use plan. Portions of the gen-tie line are located within 2 miles of a public use airport (Southern California Logistics Airport). The proposed Project does not include the development of any permanent or temporary residences, which could result in resident's exposure to excess noise levels. The portions of the gen-tie line are separated from the airport by existing residential housing and roadways (including US-395) and would not be situated underneath the flight paths for the airport. As the Project would not result in excess noise level exposure to residents or workers above baseline existing conditions, no impact would occur during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The nearest cumulative project considered in this analysis is located approximately 1.70 miles from the proposed Project. Because of the distance between the Project to the other projects evaluated in this analysis, potential cumulative noise impacts would be less than significant. site.

3.14 POPULATION AND HOUSING

3.14.1 Setting

The City of Adelanto's population as of 2017 was estimated at 32,867 (Census 2017), placing it as the eighteenth largest city in the County, and the sixth largest in the Desert Region[3]. According to the City of Adelanto Housing Element (Adelanto 2013), the number of housing units in Adelanto was 9,235 in 2013. Approximately 81.60 percent (7,536) are single-family homes, 13.44 percent (1,241) are multi-family, and 4.96 percent (458) are mobile homes. The City had a 16.1 percent vacancy rate during the most recent survey, and 37.6 percent of the overall housing in the City is rental occupied.

3.14.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion of Impacts

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact.

Development of the proposed Project would result in an increase in the availability of renewable energy resources to the local electrical grid. The availability of electrical capacity does not normally ensure or encourage growth, and the proposed Project would not directly induce population growth in the region. The new electrical infrastructure constructed, and the energy generated by the proposed Project would be made available on the wholesale market and to other commercial and industrial energy consumers.

[3] San Bernardino is divided into three separate geographically distinct regions: Valley Region, Mountain Region, and Desert Region. The Desert Region consists of the cities of Adelanto, Apple Valley, Barstow, Hesperia, Joshua Tree, Lucerne Valley, Needles, Newberry Springs, Twentynine Palms, Victorville, Yermo, and Yucca Valley.

Rather, the proposed Project would accommodate projected future growth, including that projected growth previously analyzed in the 2035 Sustainable Plan. For example, other factors such as economic conditions, population trends, and increased availability of public infrastructure services (e.g., local roadways) have a more direct impact on population growth in a region. As a result, the proposed electrical infrastructure would not directly or indirectly induce population growth.

Operation of the proposed Project would require approximately one to six full-time, permanent employees to manage and maintain the solar facility. As such, operation of the proposed Project is not anticipated to induce substantial population growth in the area either directly or indirectly. Based on the current unemployment rate within the County of 4.1 percent (Bureau of Labor Statistics 2019), a considerable workforce is available within the project region. Most personnel needed during the construction phases of the proposed Project are expected to originate from the regional labor pool. Using a regional workforce would not generate a permanent increase in local population levels because only a nominal percentage of employees is expected to relocate to the region for these short-term, non-management employment opportunities. Therefore, no impacts associated with population growth in the area would occur during the construction phase, operations phase, and the decommissioning phase.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact.

While portions of the proposed Project are zoned to allow residential use, there are no existing residences located onsite. As such, development of the proposed Project would not result in displacement of residents or necessitate the construction of replacement housing elsewhere. Therefore, no impacts would occur during the construction phase, operations phase, and the decommissioning phase.

As discussed in Section 3.11 above, the proposed code amendment would not conflict with California Senate Bill 330 (SB 330), which prohibits downzoning in existing residential zones, such as by reducing residential density limits or prohibiting residential uses altogether. Instead of impermissibly limiting or otherwise restricting residential uses, the amendment would continue to allow for residential development in addition to other allowable uses, without any change to residential use regulations. Adopting a solar energy overlay for use on top of a pre-existing zone does not restrict allowable residential uses in any zone of the City of Adelanto. The California Department of Housing and Community Development concurred with the proposed code amendment's SB-330 consistency on August 18, 2020.

Cumulative Impacts

The proposed Project-level analysis concluded that no impacts to population and housing would occur. Because of the current unemployment rate, staggered construction schedules, and relatively nominal quantity of employees needed to operate each of the related cumulative projects, the region would not experience a substantial increase in population due to prospective construction personnel and employees relocated from outside of the area. Each of the related cumulative projects would obtain labor from a



similar and often overlapping labor pool that would supply construction personnel and employees. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to population and housing. Therefore, the proposed Project's contribution to cumulative population and housing impacts would be less than cumulatively considerable.



3.15 PUBLIC SERVICES

3.15.1 Setting

Fire Protection

The City contracts with SBCFD for fire protection safety services. The County Fire Department North Desert provides fire protection safety services to the City via Station #322 (Adelanto). Station #322 is approximately 0.36 mile from the gen-tie lines, and 2.75 miles from the proposed Project site. Station #322 responds to roughly 6,500 calls for aid per year, approximately 17.8 calls per day. The station houses two pieces of equipment: one fire engine and one ladder truck. Each piece of equipment is staffed by one captain, one firefighter/emergency medical service provider, and one engineer. Additionally, the Station is staffed by a battalion chief at all times[4].

Police Protection

Law enforcement services within the City are provided by the San Bernardino County Sheriff's Department. Services to the region are provided via the Victor Valley Patrol Station, located at 11613 Bartlett Avenue, approximately 2.7 miles from the Project. The Victor Valley Station has one captain, one lieutenant, eight sergeants, seven detectives, fifty-eight patrol deputies, three sheriff's service specialists, seven office specialists, two office assistants, one secretary, and one automotive officer. In addition to the City, the Victor Valley Station provides law enforcement services to the communities of Helendale, Oro Grande, Silver Lakes, El Mirage, Spring Valley Lake, Oak Hills, Wrightwood, and unincorporated areas of the Victor Valley area not serviced by the cities of Hesperia, Victorville, and the Town of Apple Valley (SBCSD 2019).

Parks

The City maintains and operates six public park facilities totaling approximately 36 acres (Adelanto 2014). There are no parks within 1 mile of the proposed Project site; however, there are three parks within 1 mile of the proposed gen-tie line routes. The parks, and their distances from the Project site, are detailed in Table 26.

Table 25: Parks

Park	Approximate Distance	Nearest Project Component	Distance to Solar Facility
Richardson Park	356 feet (0.07 mile)	Generation Tie Line	2.76 miles
Westside Park	739 feet (0.14 mile)	Generation Tie Line	1.81 miles
Adelanto Park	1,389 feet (0.26 mile)	Generation Tie Line	2.68 miles

[4] Personal communication, Dave Corbin, Assistant Fire Chief, San Bernardino County Fire Department. 5/21/19.



Schools

Schools within the City of Adelanto are managed by two different agencies. Elementary schools (TK-8) are managed by the Adelanto Elementary School District. The Adelanto Elementary School District serves approximately 8,400 students across 14 schools, serving the cities of Adelanto and Victorville (Adelanto ESD 2019). Of these 14 schools, nine serve TK/K-5 grade students, two serve K-8, and three middle schools serving grades 6-8.

High School (9-12) is provided by the Victor Valley Unified High School District via the Adelanto High School. Adelanto High School currently provides service to 1,800 students. (VVUHD 2019)

There are no schools located within one mile of the proposed Project site; however, there are several schools located within one mile of the proposed gen-tie line routes. These schools, along with their distances from the proposed Project site, are detailed in Table 27.

Table 26: Schools

School	Enrollment	Approximate Distance	Nearest Project Component	Distance to Solar Facility
Adelanto Elementary	389	1,183 feet (0.22 mile)	Generation Tie Lines	2.67 miles
Westside Park Elementary	651	1,216 feet (0.23 mile)	Generation Tie Lines	1.91 miles
George Visual and Preforming Arts Magnet	713	1,539 feet (0.29 mile)	Generation Tie Lines	1.81 miles

Source: Adelanto ESD 2018a, 2018b, 2018c, 2018d

3.15.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion of Impacts

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios for any of the public services:

In general, the proposed Project would not induce an increase in population or create structures that would result in an increased need for any of the public services listed above (i.e., fire protection, public, schools, parks, or other public facilities). Creation of the solar facility will require construction workers that may require public services while staying in the area; however, this increase would be minimal and temporary. Current emergency services would be sufficient to cover an incremental increase in demand for emergency, criminal and firefighting services associated with the proposed Project without the need to alter existing or construct new public service facilities. Potential impacts associated with each type of facilities and public services are discussed below.

i. Fire protection?

Less Than Significant Impact.

The proposed Project does not propose the installation of any quantities of fuel that could raise the baseline fire risk. As explained above in Impact Analysis IX (a)-(b), the BESS will contain multiple features to ensure it does not pose a significant fire risk. The proposed Project would not include residential uses, and no people would reside on the proposed Project site. During the construction phase, a maximum of 200 construction workers per day would be on the proposed Project site. This increase in people could incrementally increase the potential need for fire or medical response services. However, because the increased need would be temporary, no new or physically altered fire protection facilities would be required to meet demand.

Most features of the proposed Project would be nonflammable and constructed of metal, glass, or fire-resistant plastic material. In addition, local O&M personnel or remote personnel would use the local SCADA and monitoring system to monitor operations and control the facility; this industrial control system is a computer-controlled system that monitors and controls industrial processes such as power generation designed to identify potential fires before they spread. Described above in Section 3.15.1, Setting, Station #322 is approximately 0.36 mile from the gen-tie line, 1.96 miles from the substation, and 2.75 miles from the proposed Project site. With an average speed of 45 MPH, fire response would be less than 5 minutes.

The proposed Project site would be able to be adequately served by the existing fire station and would not require the construction of a new fire station. Additionally, the design of the solar facility would strategically locate water tanks on site and implement remote monitoring to reduce potential fire impacts. The proposed Project would comply with all applicable fire and building code regulations. No new or substantially altered fire facilities would be required to serve the proposed Project. Construction of the proposed Project may necessitate traffic control in certain locations, which could temporarily affect routes used by SBCFD to respond to emergencies. However, the Applicant would be required to inform and coordinate with SBCFD prior to the movement of proposed Project materials and would obtain all necessary permits before beginning construction. Therefore, potential impacts associated with fire protection services would be less than significant during the construction phase, operations phase, and the decommissioning phase.

ii. Police protection?

Less Than Significant.

No new or substantially altered police facilities would be required to serve the proposed Project. Construction activities could result in temporary traffic congestion along some local streets, which could temporarily affect routes used by the Sheriff's Department for patrol and to respond to emergencies if an emergency were to occur during construction material movement. However, the Applicant would be required to inform and coordinate with the Sheriff's Department prior to movement of proposed Project materials and would obtain all necessary permits before beginning construction. In addition, the proposed Project would not include residential uses, and no people would reside on the proposed Project site. The lack of permanent residents and employees would reduce the quantity of emergency law enforcement calls originating from the proposed Project site. Development of the proposed Project would not require the construction of new or the expansion of existing police or sheriff's facilities. Therefore, potential impacts associated with police protection services would be less than significant during the construction phase, operations phase, and the decommissioning phase.

iii. Schools?

No Impact.

Short-term construction of the proposed Project would require approximately 500 construction workers over the full phased construction period and less than that during the decommissioning phase. These workers may have school-aged children that would require enrollment at a local elementary, intermediate, or high school. Based on the current unemployment rate within the County, a considerable workforce is available within the proposed Project region. Only a nominal percentage of employees is expected to relocate to the region for these short-term, non-management employment opportunities. Additionally, given the short construction duration, it is expected that no school-aged children would be introduced to the proposed Project area.

Operation of the proposed Project would require no more than six employees to manage and maintain the solar facility. Again, a considerable workforce is available within the proposed Project region, and only a



few new elementary through high school students would be anticipated. Overall, the proposed Project would not significantly increase either directly or indirectly the school-aged population in the region, and thus, would not require the construction of new or the expansion of existing school facilities. Therefore, there would be no impacts associated with schools during the construction phase, operations phase, and the decommissioning phase.

iv. Parks

No Impact.

Park facilities are described in further detail in Section 3.16, Recreation. Construction of the proposed Project would require approximately 500 construction workers over the full phased construction period and less than that during the decommissioning phase. Operation of the proposed Project would require a small workforce of no more than six employees. A considerable workforce is available within the project region, and local residents are expected to serve the labor requirements of the proposed Project, negating the need for a significant percentage of outside labor. As a result, the proposed Project is not anticipated to induce substantial population growth in the area either directly or indirectly, and the existing number of park facilities would continue to adequately serve the regional population. The proposed Project would not result in a substantial increase in population during or after construction and therefore would not increase the demand for parks. Therefore, there are no potential impacts associated with park facilities during the construction phase, operations phase, and the decommissioning phase.

v. Other Public Facilities

No Impact.

Other public facilities include public libraries, public hospitals and medical centers, and community centers. A considerable workforce is available within the proposed Project region, and local residents are expected to serve the labor requirements of the proposed Project, negating the need for a significant percentage of outside labor. As a result, the proposed Project is not anticipated to induce substantial population growth in the area either directly or indirectly, and the existing number of other public facilities would continue to adequately serve the regional population. Therefore, potential impacts associated with other public facilities would be less than significant. The proposed Project would not result in a substantial increase in population during or after construction and therefore would not increase the demand for public facilities during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that impacts to public services were nonexistent or less than significant and do not require mitigation. All but one (22 single family homes with a 48-unit subdivision) of the related cumulative projects would exhibit similar low demand for these public services. In addition, security services to the related cumulative projects would be provided through remote security monitoring services that would reduce the demand for both police protection services and fire protection services. In addition, these types of facilities would employ workers from the existing labor pool and would



not result in an increased demand for school services, parks, or other facilities such as hospitals, libraries, and community centers. Even if the 22 single family homes with a 48-unit subdivision required additional services, there would be no potential for cumulative impacts, as the proposed Project has none to less than significant impacts on public services. Therefore, the proposed Project's contribution to cumulative public services impacts would be less than cumulatively considerable.



3.16 RECREATION

3.16.1 Setting

The City of Adelanto Department of Parks and Recreation manages, maintains, and operates six public park facilities totaling approximately 36 acres. Four of the parks are located within the northern portion of the City, and two are located within the southern portion of the City (City 2014). As discussed above in Section 3.15.1 (shown in Table 26), the closest part to the proposed Project is Richardson Park.

3.16.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION — Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion of Impacts

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact.

The proposed Project does not involve any component that would increase the use of parks or recreation facilities. No impacts associated with the increased use or substantial physical deterioration of existing neighborhoods, regional parks, or other recreational facilities would occur as a result of the proposed Project during the construction phase, operations phase, and the decommissioning phase.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact.

The proposed Project does not include recreational facilities or require the construction or expansion of recreation facilities that might have an adverse physical effect on the environment. No impact would occur during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that there are no impacts to recreation resources and the proposed Project does not require mitigation. The existing recreational facilities are adequate to serve the proposed Project and cumulative projects, with the potential exception of the residential project. To that extent, should the residential project require greater service demands that place strain on recreational facilities, the project would be required to address the issue in a way that does not have significant adverse impact on environment. Therefore, the proposed Project's contribution to cumulative recreation resources impacts would be less than cumulatively considerable.



3.17 TRANSPORTATION

3.17.1 Setting

The existing regional and local roadway network in the City is a hierarchical system of highways and local streets developed to provide regional traffic movement and local access. The following provides a description of the functional classification of the facilities within the proposed Project area. Traffic impacts associated with the proposed Project are primarily related to temporary construction and routine maintenance activities. This traffic assessment focuses on short-term traffic impacts associated with changes in traffic volumes and the increase in proposed Project-related traffic during construction, operation, and decommissioning of the facility. Traffic impacts during construction are quantified, as construction would result in large numbers of trips for trucks and construction employee vehicles.

Traffic impacts during O&M are not quantified, as trips during O&M would be limited to employee trips for up to three employees per day, one vehicle three times a week, with the exception of panel washing, where employee trips would result in one vehicle approximately five times a week.

The impact analysis qualitatively discusses the potential impacts from project operation on roadway operations, alternative transportation, emergency access, and safety hazards along the primary proposed Project's access routes. Vehicle trips generated during construction were estimated using the construction information (construction schedule and duration, and number of truck and worker trips) described in Section 2.0, Project Description, and provided by the Applicant.

The numbers of construction employee and truck traffic trips were estimated for proposed Project conditions to determine the potential traffic impacts that would occur over an 18-month period.

Roadway Classifications

The existing regional and local roadway network in the City is a hierarchical system of highways and local streets developed to provide regional traffic movement and local access. The following provides a description of the functional classification of the facilities within the project area.

Streets and highways within the City are defined in the Adelanto North 2035 Comprehensive Sustainable Plan.

Highways (6 lanes)

Six lanes wide, with a 170 foot ROW. Highways provide regional mobility and include Class I bike lanes. Highways include US 395.

Major Streets/Boulevards

Four lanes wide with a 128 foot ROW. Both major streets and major boulevards will connect core areas and will include Class II bike lanes. Both streets and boulevards will be landscaped; however, boulevards will have a landscaped center median.

Major streets include portions of Adelanto Road, Bellflower Road, Caughlin Road, Daisy Road, El Mirage Road, Holly Street, Koala Road, Lynwood Avenue, Mojave Road, Rancho Road, and Seneca Road.

Major boulevards include portions of Adelanto Road, Aster Road, Bellflower Street, Colusa Road, Desoto Avenue, Holly Road, Koala Road, Lynwood Avenue, Mojave Drive, Rancho Road, and Richardson Road.

Collector Streets

Four lanes wide, with a 112 foot ROW. Pedestrian-oriented design with Class II bike lanes, collector streets include portions of Auburn Avenue, Beaver Road, Cactus Road, Chamberlaine Way, Jonathan Street, Raccoon Avenue, Stevens Street, Vinton Road, and Victor Street.

Activity Street-Commercial

Two lanes wide, with a 118 foot ROW. Intended for multiple retail and commercial areas; encourage pedestrian activity with wider sidewalks to accommodate cyclists as well. The activity street-commercial within the town center includes two vehicular travel lanes, angled parking, mid-block crossings, and curb extensions.

Activity Street-Residential

Two lanes wide, with an 84 foot ROW. Intended for residential areas; encourage pedestrian activity with wider sidewalks to accommodate cyclists; alleyways will provide access to garages in the back. Residential streets include portions of Aster Road, Bellflower Street, and Chamberlaine Way

Loop Street - One Way

A one-way street, 2 to 3 lanes wide, with a 92 foot ROW. One-way couplet street that will serve Town Center and Business Park districts; includes a bike lane on one side.

Trip Generation

Construction employees would generally arrive by private automobile; however, similar solar facilities have shown a high level of carpooling, especially during the later stages of project construction. For this analysis, it was assumed that none of the employees would be expected to carpool, even though a usual rate on similar projects is between 10-15 percent. Approximately 5,600 truck trips are assumed for the duration of the proposed Project's construction-related deliveries (e.g., racking system, various supplies, and electrical system components), with approximately 4,500 of the trips taking place in the first six months, followed by 10 trips/day for the remaining 3 months. That equates to approximately 750 trips per month, 187 trips per week, and 37 trips per day, based on a 5-day work week. Additionally, there would be up to 200 workers onsite at the peak of construction. For this analysis, a worst-case scenario was assumed where the combination of delivery and construction worker trips would take place simultaneously; therefore, the total potential vehicle trip generation from the proposed Project would be approximately 237 trips per day.

Traffic studies in the City are required for certain projects and are based on the San Bernardino County Congestion Management Program (CMP) Guidelines for CMP Traffic Impact Analysis Reports. The CMP guidelines generally require traffic studies to be prepared by or at the direction of the local jurisdiction with land use authority when a change in land use, a development project, or at local discretion, a group of projects are forecast to generate 250 two-way peak hour trips based on trip generation rates published for the applicable use or uses in the Institute of Transportation Engineers' Trip Generation or other CMP-approved data source. CMP arterial highways shall be analyzed if they are projected to carry at least 50 two-way peak hour trips and freeway segments shall be analyzed if they carry at least 100 two-way peak hour trips. Based on the trip generation for the proposed Project, 237 total peak hour trips containing 37 peak hour delivery trips that would utilize arterial highways and freeway segments; therefore, a traffic study is not required.

3.17.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION — Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion of Impacts

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant with Mitigation Incorporated.

The proposed Project would generate traffic through the transport of workers, equipment, and materials to and from the proposed Project site. Such transport activities would be temporary and required only during the proposed Project's construction; however, increases in traffic levels, although temporary, could potentially result in adverse effects to the local circulation system. As such, construction traffic impacts require evaluation. The analysis presents anticipated construction phase impacts.

As discussed previously, the anticipated construction period is 18 months. Approximately 5,600 truck trips are assumed for the life of the proposed Project's construction-related deliveries (e.g., tracking system, employees, various supplies, and electrical system components), that equates to approximately 750 trips per month, 187 trips per week, and 37 trips per day, based on a 5-day work week, during the most intense periods of construction. For this analysis, a worst-case scenario was assumed where the combination of delivery and construction worker trips would take place simultaneously; therefore, the total potential vehicle trip generation from the proposed Project would be approximately 237 two-way trips per day. Deliveries will be made from the south heading north on Highway 395, a two-lane to four-lane regional transportation route, to Rancho Road, then westward to Koala Road, traveling north to El Mirage Road, and then onto the proposed Project Site. Highway 395 could be accessed from a variety of routes, most likely via the junction with I-15, which can accommodate a peak hour trip count of 9,800 (Caltrans, 2017).

Average Daily Traffic (ADT) volumes for Highway 395 were derived from Caltrans (2017 Traffic Volumes, Traffic Census Program, California Department of Transportation). The segment of Highway 395 in the study area carries 16,500 ADT south of Rancho Road and 10,500 north of Rancho Road. The short-term addition of a maximum of 237 ADT during the peak of construction would not significantly affect the highway's level of service, resulting in an incremental increase of approximately 1%. ADT volumes for Rancho Road and Koala Road were collected in December 2019. ADT volumes for El Mirage Road were derived from the City's 1994 General Plan, and a growth factor to adjust to current volumes.

As shown in Table 28, El Mirage, Rancho, and Kola roads are assumed to be operating at LOS A based on the anticipated volumes. Although average daily trips (ADT) are only available for the segment of El Mirage adjacent to the proposed Project site, we have applied similar ADT to the connecting roads for this analysis due to the similar usage amounts. The ADT generated by proposed Project construction would result in an increase of a maximum of 228 ADTs on El Mirage, Rancho and Kola roads. Table 28 provides the proposed Project's maximum contribution to existing traffic volumes and assumes that all 228 trips travel on El Mirage, Rancho, and Koala roads for a worst-case scenario.

Table 27: Project's Construction Traffic

Roadway Section	Classification	Capacity	V/C	LOS	Existing ADT	Project's Maximum Contribution to Capacity of Roadway
El Mirage Road	Arterial	16,000	0.11	A	1,800*	1.43%
Rancho Road	Arterial	16,000	0.40	A	6,400	1.43%
Koala Road	Arterial	16,000	0.14	A	2,200	1.43%

Notes:

*Roadway ADT for El Mirage Road is based on existing ADT contained in the City of Adelanto General Plan Noise Element 1993. This was evaluated with the posted speed of 50 MPH, which classifies the roadways as Class I Arterials which normally operate between 45-35 MPH. Therefore, it's reasonable to assume with a higher posted speed the roadways are operating at LOS A. (Transportation Research Board, Highway Capacity Manual, Special Report 209(Washington, D.C., 1994), pp. 11-4). To

Roadway Section	Classification	Capacity	V/C	LOS	Existing ADT	Project's Maximum Contribution to Capacity of Roadway

be conservative, a growth factor based on the City's Adelanto North 2035 Comprehensive Sustainable Plan was added to base 1993 factor of 1,500 ADT on El Mirage Road.

LOS = level of service

ADT = average daily trips

V/C = traffic volume proportional to capacity

As shown in Table 28, the proposed Project would increase average daily traffic volumes by 1.43 percent during the most intensive phase of the proposed Project. The City's level of service standard for roadways is LOS D. All roadway segments along the proposed construction traffic route would continue to operate at LOS A with the addition of project traffic. Thus, the project-related trip volume increases would not constitute an exceedance of the City's LOS standards for roadways.

Given that each of these roadways presently operates well within minimum LOS standards, the temporary increase in daily trips would not increase traffic levels on these roadways to the extent that minimum LOS standards are exceeded. However, because of the rural nature of the proposed Project site, a traffic management plan would be developed in accordance with mitigation measure TRA-1 (Traffic Management Plan) to address potential short-term impacts. The traffic management plan would include construction staging and traffic control measures to maintain LOS and minimize impacts to traffic. The traffic management plan would also require provisions for emergency access and coordination with utility service providers, law enforcement, and emergency service providers to ensure minimal disruption to service during construction. The traffic management plan would also prohibit parking on adjacent roadways. Therefore, short-term construction impacts to the existing circulation system capacity would be less than significant.

Once operational, the proposed Project would generate only a nominal amount of traffic, primarily maintenance vehicle trips. Periodic maintenance and panel cleaning activities would produce some traffic during the year, although such activities would be distributed throughout the year. During panel washing activities, it is projected that a maximum of 2 daily trips (1 round trip, approximately 1 week in duration) would be generated. As a result, operational impacts would be less than significant. Out of an abundance of caution and the potential for the proposed Project to impact the local roadway network, there is the potential for an unforeseen conflict from the proposed Project's construction phase, operations phase, and the decommissioning phase. As such, mitigation measure TRA-1 (Traffic Management Plan), when implemented, would further ensure that operational impacts associated with the proposed Project are less than significant.

The proposed Project site is located in a rural area where alternative transportation is not commonly used. Because the proposed Project is not adjacent to a roadway with alternative modes of transport (bike and pedestrian travel) the proposed Project would not increase hazards or create barriers for pedestrians or bicyclists, nor would it interfere with bus routes or turnouts. Accordingly, the proposed Project would not conflict with adopted policies supporting alternative transportation, and no impacts would occur. The proposed Project would not generate demand for public transit, nor does it include



transit facilities. Therefore, the proposed Project would not conflict with policies or standards related to alternative transportation modes, and the impact would be less than significant during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

TRA-1: **Traffic Management Plan:** A traffic management plan shall be submitted to the City for review and approval prior to the issuance of any construction permits. The traffic management plan shall include strategies for minimizing impacts to traffic, effectively managing traffic flow and reducing the number of trips accessing the proposed Project site during the peak hours of 7 AM to 9 AM and 4 PM to 6 PM. These strategies shall include, but not be limited to the following:

- Require parking within designated areas on the proposed Project site and prohibit parking along the shoulders of adjacent roadways.
- Provide for emergency vehicle movement through the proposed Project site at all times during construction, operation, and decommissioning.
- Provide approved offsite parking for workers with shuttle services to transport them onsite when and if onsite parking becomes restricted or unfeasible.
- Facilitate materials delivery during off-peak traffic hours and comply with regulations governing oversized loads.
- Encourage vanpool and carpool for construction employees commuting to the proposed Project site.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impact.

According to CEQA Guidelines §15064.3 subdivision (b), vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact. The proposed use will generate minimal operation travel miles as discussed in impact a). Furthermore, the proposed Project is a renewable utility-scale solar project, which is seen as an important strategy in combating the release of GHG emissions from other development actions. As such, the proposed Project is consistent with the state's renewable energy objectives identified by the state's Strategic Growth Council (SGC). As a result, the potential impacts are considered

to be less than significant during the construction phase, operations phase, and the decommissioning phase.

c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant with Mitigation Incorporated.

The proposed Project requires no new circulation improvements other than previously approved roadway alignments and proposed Project-related driveway approaches to the proposed Project site access points. Roadways in the proposed Project vicinity are generally straight with good sight distance, so visibility and access are acceptable. The maneuvering of slow-moving construction trucks and equipment among the general-purpose traffic on El Mirage, Rancho, and Kola roads in the proposed Project vicinity could temporarily slow traffic flow. However, the impact would be less than significant and further reduced through implementation of mitigation measure TRA-1 (Traffic Management Plan) during the construction phase, operations phase, and the decommissioning phase.

Mitigation Measures

TRA-1: Traffic Management Plan

d) Result in inadequate emergency access?

Less Than Significant Impact.

Per the City's Adelanto North 2013 Comprehensive Sustainable Plan; El Mirage, Rancho, and Kola roads are not identified as an emergency evacuation route. The proposed Project would not create significant traffic volumes during construction or operations. Additionally, it would not require the use of equipment, nor would it result in improvements that could obstruct movement of vehicles along County-defined emergency access routes. As such, the proposed Project would result in a less than significant impact to emergency access during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that impacts to transportation and traffic were less than significant with the implementation of mitigation measure TRA-1 (Traffic Management Plan). All the related cumulative projects are located in the vicinity of the proposed Project. However, because of the multiple roadways that would be used by, the staggered construction schedules of the related cumulative projects, and the nominal amount of traffic that would be generated during the operations phases of these facilities, only incremental impacts to the overall effectiveness of the local and regional circulation system are anticipated, and overall, less than significant cumulative impacts would occur. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to transportation and traffic. Therefore, the proposed Project's contribution to cumulative transportation and traffic impacts would be less than cumulatively considerable.

3.18 TRIBAL CULTURAL RESOURCES

3.18.1 Setting

The legislature added requirements regarding Tribal Cultural Resources for CEQA in AB 52 that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and tribal governments, public agencies, and Applicants would have information available early in the proposed Project's planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the PRC requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a project.

The purpose of the consultation is to determine if Traditional Cultural Resources (TCRs) are present or may be impacted by a proposed project. Tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register) or included in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. A cultural landscape that meets these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be tribal cultural resources if they meet these criteria.

The City of Adelanto began AB 52 consultation in August 2019 when letters were sent to the Kern Valley Indian Community, Morongo Band of Mission Indians, San Fernando Band of Mission Indians, San Manuel Band of Mission Indians, Serrano Nation of Mission Indians, and Tubatulabals of Kern Valley informing them of the proposed Project and their right to request consultation within 30 days of receipt of the notification. The San Manuel Band of Mission Indians (SMBMI) and the Morongo Band of Mission Indians (Morongo) requested consultation on the project.

Following BCR's Cultural Resources Phase I Assessment, SMBMI commented on the results of BCR's assessment in an email dated November 5, 2019 from Jessica Mauk, Cultural Resources Analyst for the tribe. Ms. Mauk stated that: "SMBMI has identified a TCR landscape within a portion of the project area that is associated with a travel corridor between two Serrano villages. As such, SMBMI has comments/concerns regarding the pre-contact sites recorded during the Phase I survey, as well as comments/requests regarding the Phase II testing proposal, as some of these resources are, or may be, associated with this TCR" (email on file with the City of Adelanto).

To address tribal concerns, SMBMI and Morongo were consulted and assisted in the development BCR's cultural resources evaluation plan as part of the City's continuing AB 52 Consultation.



Incorporating the concerns of the SMBMI and Morongo, the City and the Applicant delineated the boundaries of archaeological sites potentially associated with a component of the TCR landscape identified by SMBMI and agreed to avoid these resources. Agreement by the City to avoid pre-contact sites that may be associated with a TCR landscape used as a travel corridor constitutes compliance and closure of the AB 52 consultation.

3.18.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES — Would the project: cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion of Impacts

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

No Impact.

There were no listed TCR resources identified that were listed or determined eligible for listing in the CRHR or local register.

b) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation Incorporated.

SMBMI identified a potential TCR associated with a trail used for travel and trade between two known villages. SMBI and Morongo participated in the preparation and development of the testing and evaluation plan which identified pre-contact archaeological sites with artifacts that may be associated with the TCR and contain material that can be dated and sourced. The City and the Applicant agreed to avoid these resources pursuant to implementation of CULT-1, and CULT-2 which provides for the development of a Cultural Resources Monitoring Plan. Implementation of CULT-1 and CULT-2 will reduce impacts on the potential TCR to less than significant.

Mitigation Measures

CULT-1 Avoidance of the Eight Reported Significant Archaeological Sites

CULT-2 Development and Implementation of a Cultural Resources Monitoring Plan

Cumulative Impacts

Construction and operation of the project would include activities limited to the confines of the proposed Project site. As described above, the tribal consultation has determined that the proposed Project is unlikely to adversely affect tribal cultural resources with implementation of Mitigation Measure CULT-1 (avoidance plan) and CULT-2 (monitoring plan). With implementation of these measures, the Project is avoiding (leaving in place) known resources determined eligible, as well as providing monitoring during construction. Because identified Tribal Cultural resources will be avoided (left in place), and CUL-2 requires monitoring and treatment of unexpected discoveries, there will be a less than significant impact to Tribal Cultural Resources, and as such, the project would not contribute to any cumulative impacts.



3.19 UTILITIES AND SERVICE SYSTEMS

3.19.1 Setting

Described above in Section 2.0, Project Description, the proposed Project is located within the City of Adelanto. Water service within the City is provided by the City of Adelanto Water Department, as a member of the Adelanto Public Utilities Authority (Authority). The Authority also provides wastewater treatment via the 1.5 million gallon per day activated sludge wastewater treatment facility[5]. Electrical service within the City of Adelanto is provided by Southern California Edison. Section 3.6.1, Energy Setting, contains a description of SCE's energy sources. Natural gas service within the City is provided by Southern California Gas Company. Trash service within the City is provided by Burrtec under contract to the City. Detailed in the City's Urban Water Management Plan (Adelanto 2015) the available supplies and water demands for the City's service area were analyzed to assess the region's ability to satisfy demands during the three hydrologic conditions: average water year, single-dry year, and multiple dry years.

Table 28: Water Supply Reliability Analysis Summary

	Projected (af)				
Water Year	**2020**	**2025**	**2030**	**2035**	**2040**
Normal Year Supply	9,300	10,444	11,581	12,640	13,750
Normal Year Demand	4,578	4,872	5,292	5,737	6,195
Normal Year Surplus	**4,722**	**5572**	**6289**	**6903**	**7555**
Single-Dry Year Surplus	**4,722**	**5572**	**6289**	**6903**	**7555**
Multiple Dry Year Supply	9,300	10444	11581	12640	13750
1st Multiple-Dry Year Surplus	**4,722**	**5,572**	**6,289**	**6,903**	**7,555**
2nd Multiple-Dry Year Demand	4,696	5,040	5,470	5,921	6,291
2nd Multiple-Dry Year Surplus	**4,604**	**5,404**	**6,111**	**6,719**	**7,459**
3rd Multiple-Dry Year Demand	4,755	5,124	5,559	6,013	6,387

[5] The City is currently constructing a 2.5 million gallon per day upgrade, increasing the available wastewater treatment capabilities to 4 million gallons per day.

Water Year	Projected (af)				
	2020	2025	2030	2035	2040
3rd Multiple Dry Year Surplus	**4,545**	**5,320**	**6,022**	**6,627**	**7,363**
4th Multiple-Dry Year Demand	4,814	5,208	5,648	6,105	6,483
4th Multiple-Dry Year Surplus	**4,486**	**5,236**	**5,933**	**6,535**	**7,267**

Source: Adelanto 2015

3.19.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion of Impacts

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact.

As detailed in Section 2.0 (Project Description), the proposed Project would not require or result in the relocation or construction of new or expanded water, stormwater drainage, or natural gas facilities. Water would be provided via an existing municipal connection, stormwater would be allowed to drain naturally across the site, and the Project does not require the use of natural gas.

The proposed Project would not include restroom facilities that would connect with a municipal sewer system and subsequently require wastewater treatment. During the construction phase and decommissioning phase of the proposed Project, construction workers would use temporary, portable restroom facilities. During the operations phase of the proposed Project, the limited quantity of employees working at the solar facility would use portable toilets. Portable restroom facilities would require periodic service. The annual water consumption for operations of the facility, including periodic PV module washing, is expected to be 9.68 afy and would be supplied locally or be trucked in.

The proposed Project would not generate a substantial amount of wastewater and would not connect to the City municipal wastewater facilities. Stormwater would be allowed to drain across the site similar to baseline conditions. There are no existing telecommunications facilities onsite, therefore the proposed Project would include the development and construction of the SCADA system (as discussed in Sections 2.2.6 and 2.2.7). Fiber optic cables will run from the site, along the gen-tie line route, to the substation. However, there will be wireless communication to and from the SCADA system. All impacts associated with the construction and operation of the electrical power and telecommunications systems required for the Project are analyzed in detail throughout this document. Where appropriate, mitigation measures to alleviate potentially significant environmental effects have been proposed within each respective section. All of these mitigation measures serve to reduce all impacts to a less than significant level, and no additional mitigation measures are required.

Therefore, the proposed Project would not require the construction of new water, wastewater, stormwater drainage, or natural gas facilities, or the expansion of existing facilities. The Project would involve the construction of new electrical power and telecommunications facilities, the impacts of which have been mitigated through the application of the mitigation measures contained throughout this document. No additional mitigation measures are necessary to reduce these impacts to a less than significant level.

Therefore, potential impacts would be less than significant during the construction phase, operations phase, and decommissioning phase.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?



Less Than Significant Impact.

It is conservatively estimated that approximately 323 af of water would be required during construction. Construction water needs would be limited to soil conditioning and dust suppression. Potable water would be brought to the project site for drinking and domestic needs. The annual water consumption for operations of the proposed Project, including periodic PV module washing, is conservatively expected to be no more than 9.68 afy. However, based on the Applicant's experience constructing similar projects, it is common for panel washing to not be required. Depending heavily on cleaning technologies and climatic conditions, the Applicant could use much less water. The Applicant would obtain the water necessary for the proposed Project via either an on or offsite municipal connection from the City. Detailed in the City's Urban Water Management Plan (and above in Table 29), the City has access to approximately 9,300 afy (in 2020) and rising to 13,750 afy in 2040. At worst case, the proposed Project would represent a consumption of approximately 0.1% of available supply, and 7% of the current available surplus. The worst case fourth multiple dry year surplus would make approximately 4,486 af available, also resulting in the proposed Project using 7% of the available worst-case scenario supplies. As the proposed Project's demand would be easily accommodated by existing supplies and production surpluses during normal, dry, and multiple dry years, potential impacts associated with sufficient water supplies would be less than significant during the construction phase, operations phase, and decommissioning phase.

c) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less Than Significant Impact.

Wastewater generated during construction would be limited to that generated by construction personnel and would be accommodated by temporary portable toilets brought to staging areas for construction crews. These portable toilets would be maintained by a licensed sanitation contractor. The licensed contractor would dispose of the waste at an offsite location and in compliance with standards established by the RWQCB. The wastewater disposal would utilize existing disposal facilities and infrastructure with available processing capacity

Long-term O&M would not generate substantial amounts of wastewater. Routine maintenance would require workers to visit the proposed Project throughout the year, and workers would bring portable restroom facilities during maintenance activities. These toilets would be maintained as described above. Panel washing would generate minimal volumes of wastewater, which would likely be evaporated onsite.

The proposed Project would not tie into the sanitary sewer system, and therefore would not affect any wastewater treatment provider's capacity. Waste from portable toilets used during construction, operation, and decommissioning would be handled by a licensed sanitation contractor. The licensed contractor would dispose of the waste at an offsite location and in compliance with all applicable regulations and standards. Impacts would be less than significant during the construction phase, operations phase, and the decommissioning phase.



d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact.

Construction of the proposed Project would result in the temporary generation of small volumes of various waste materials, including wood, metal, soil, and vegetation. Although waste from construction activities would be sent to one or more landfills in the area, the amount is not anticipated to be enough to affect the permitted capacity of a landfill. The Victorville Landfill would be the closest disposal facility to the site and currently, the remaining capacity of the Victorville Landfill is approximately 97 percent (CalRecycle 2009). All solid waste disposal would be performed in accordance with the applicable existing rules, regulations, and requirements, including the CalGreen requirements.

Sanitation waste (i.e., human-generated waste) would be disposed of in accordance with sanitation waste management practices. Any soil excavated could be distributed at construction areas, used to backfill excavations, or used for access roads near or within the ROWs for the gen-tie and communication lines. Any excess soil would be disposed of offsite at an appropriately licensed facility (such as the Victorville Landfill).

O&M activities would consist of routine maintenance and emergency work at the project site. These activities would not generate solid waste in an amount that would affect the permitted capacity of landfills in the area. Since local landfills are capable of serving project construction, they would be able to accommodate the project's solid waste disposal needs during operation. It is anticipated that during decommissioning, the proposed Project would either be recycled/salvaged or be served by a landfill with sufficient permitted capacity to accommodate the proposed Project's solid waste disposal needs. Impacts would be less than significant during the construction phase, operations phase, and the decommissioning phase.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact.

The Integrated Waste Management Act of 1989 (AB 939) requires all local and county governments to adopt a Source Reduction and Recycling Element to identify means of reducing the amount of solid waste sent to landfills. Adelanto has established recycling and resource recovery programs in accordance with the requirements of AB 939. During construction, soil from drilling or excavation would be separated for use as backfill to the maximum extent possible. Other waste, such as packing crates, spare bolts, and other construction debris, would be hauled offsite for recycling when possible.

O&M activities associated with the proposed Project would not generate a significant amount of solid waste and would not affect the permitted capacity of landfills in the area. Impacts during decommissioning would be the same as impacts described during construction. The proposed Project would comply with



federal, state, and local statutes and regulations related to solid waste, and impacts would be less than significant during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that impacts to utilities and service systems were less than significant and do not require mitigation. Because the related cumulative projects would demand less water due to reduced agriculture operations, would not require wastewater treatment facilities or storm drain systems, and would not exceed landfill capacity, less than significant cumulative impacts would occur. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to utilities and service systems. Therefore, the proposed Project's contribution to cumulative utilities and service systems impacts would be less than cumulatively considerable.



3.20 WILDFIRE

3.20.1 Setting

The proposed Project is solely located within the City, an area mapped by the California Department of Forestry and Fire Protection (CAL FIRE) as a Local Responsibility Area (LRA) (CAL FIRE 2008a). Fire protection and response within the LRA is provided by SBCFD. The proposed Project site is not classified as VHFHSZ (CAL FIRE 2008b). The lands surrounding the Project are also mapped as LRA's. Additionally, the Project is not located in lands mapped as VHFHSZ. The nearest mapped VHFHSZ is approximately 16 miles to the southwest of the proposed Project.

3.20.2 Impact Analysis

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion of Impacts

The proposed Project does not meet the criteria for impact analysis under the above significance criteria.

Projects are subject to wildfire analysis when one of four conditions are fulfilled:

1. The Project is located in a State Responsibility Area.
2. The Project is located near a State Responsibility Area
3. The Project is located on lands classified as VHFHSZ.
4. The Project is located near lands classified as VHFHSZ.

The proposed Project does not fulfil any of these four conditions. The proposed Project is located wholly within the City borders in an area mapped as an LRA by CAL FIRE. The lands adjacent to and surrounding the proposed Project are also mapped as LRAs. Additionally, the proposed Project is not located in lands mapped as VHFHSZ. The nearest location mapped VHFHSZ is approximately 16 miles to the southwest of the proposed Project (CAL FIRE 2008b). As such, the proposed Project is not subject to wildfire analysis, and no impacts from wildfire would occur.

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

No Impact.

The proposed Project is located within the City. The City does not have an adopted emergency response plan or emergency evacuation plan. As discussed above in Section 3.15, the City has chosen to contract with the County for law enforcement services, fire protection services, and emergency response services. Therefore, the County Emergency Operations Plan would provide coverage for the proposed Project. The proposed Project would be constructed, operated, and decommissioned in accordance with the requirements of the plan. As the proposed Project does not meet the criteria for potential wildfire impacts and would be operated in compliance with existing plans, no impact would occur during the construction, operations, or the decommissioning phases.

b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

No Impact.

The proposed Project is located in a flat environment with minimal vegetation. Ongoing maintenance for the proposed Project would include periodic trimming of vegetation onsite. Due to the nature of the Project as an unmanned energy generation facility, the proposed Project would have no permanent or long-term occupants during construction, operation, and decommissioning. As the proposed Project does not meet the criteria for potential wildfire impacts and would be operated in compliance with existing plans, no impact would occur during the construction phase, operations phase, and the decommissioning phase.

c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

No Impact.

As described above in Section 2.0, Project Description, the proposed Project would result in the installation, maintenance, and decommissioning of both the proposed solar facility and associated infrastructure, including roads, emergency water sources, and powerlines. These associated pieces of infrastructure would be constructed in compliance with existing regulations and requirements governing fire safety (such as NFPA's standards and those outlined in the California Fire Code). As the proposed Project does not meet the criteria for potential wildfire impacts and would be constructed, operated, and



decommissioned in compliance with existing rules, regulations, and requirements, no impact would occur during the construction phase, operations phase, and the decommissioning phase.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact.

As described above in Section 3.7.1, Geology and Soils Setting, and in Section 3.10.1, Hydrology and Water Quality Setting, the proposed Project is not located in area at risk for landslides or substantial downslope or downstream flooding as a result of runoff, post-fire slope instability, or drainage changes. Detailed further in Appendix D (Preliminary Drainage Report), the construction of the proposed Project would not introduce a potentially significant amount of new impervious surfaces to the watershed that would otherwise alter flood flows. As the proposed Project does not meet the criteria for potential wildfire impacts and would be constructed, operated, and decommissioned in compliance with existing rules, regulations, and requirements, no impact would occur during the construction phase, operations phase, and the decommissioning phase.

Cumulative Impacts

The proposed Project-level analysis concluded that there are no impacts with respect to wildfire. Because potential impacts to wildfire are site-specific, each of the related cumulative projects would either conclude that no or less than significant impacts would occur or would include their own mitigation specific to the unique fire load and wind characteristics of the individual site and project. Additionally, all related cumulative projects would be required to comply emergency response routes that are appropriate to each respective site.

As the proposed Project does not meet the criteria for potential wildfire impacts, other potential cumulative projects are also unlikely to meet the criteria for potential wildfire impacts, therefore the proposed Project's contribution to cumulative wildfire impacts would not be cumulatively considerable.



3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated.

As discussed in detail within Section 3.4.2, the proposed Project would implement Mitigation Measures BIO-1 through BIO-14; these mitigation measures have been specifically designed to avoid otherwise potentially significant effects to the quality of the environment, reductions in the habitat of fish or wildlife species, effects on population levels, or restrictions in range of endangered species. With implementation of these mitigation measures, impacts would be reduced for all potential impacts to a less than significant level.

Additionally, per Section 3.5.2, the proposed Project would implement Mitigation Measures CULT-1 through CULT-4; to avoid significant effects on cultural resources, including preventing the elimination of important examples of the major periods of California history and prehistory; thereby reducing impacts to less than significant.

Implementation of Mitigation Measures BIO-1 through BIO-14 and CULT-1 through CULT-4 would serve to ensure that the proposed Project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory; therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measures

BIO-1	**Wildlife Pre-Construction Clearance Surveys and Biological Monitoring**
BIO-2	**Environmental Awareness Training**
BIO-2	**Environmental Awareness Training**
BIO-4	**Nesting Bird Surveys and Avoidance Measures**
BIO-5	**Desert Tortoise and Mohave Ground Squirrel Protection Measures**
BIO-6	**Compensation for Impacts to Desert Tortoise**
BIO-7	**Burrowing Owl Protection Measures**
BIO-8	**Compensation for Impacts to Burrowing Owl**
BIO-9	**Compensation for Impacts to Mohave Ground Squirrel**
BIO-10	**Swainson's Hawk Surveys and Compensation for Loss of Foraging Habitat**
BIO-11	**Weed Control Plan**
BIO-12	**Kit Fox and Badger Management Plan**
BIO-13	**Raven Management Plan**
BIO-14:	**Joshua Tree Surveys and Compensation for Specimen Tree Removal**
CULT-1	**Avoidance of the Eight Reported Significant Archaeological Sites**
CULT-2	**Development and Implementation of a Cultural Resources Monitoring Plan**
CULT-3	**Worker's Environmental Awareness Program (WEAP)**
CULT-4:	**Human Remains.**

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Less than Significant with Mitigation Incorporated.

The cumulative impacts analysis provided here is consistent with Section 15130(a) of the CEQA Guidelines in which the analysis of cumulative effects of a project is based on two determinations: Is the combined impact of this project and other projects significant? If so, is the project's incremental effect cumulatively considerable, causing the combined impact of the projects evaluated to become significant? The cumulative impact must be analyzed only if the combined impact is significant and the project's incremental effect is found to be cumulatively considerable (CEQA Guidelines 15130(a)(2) and (3)).

Projects Considered

To assess cumulative impacts, the incremental effects of the proposed Project in connection with effects from past, current, and probable future projects that may result in similar impacts were considered.

The City of Adelanto Planning Department Development Activity Report (September 2018 to CURRENT) was used to identify the cumulative projects list, which can be found at Table 2 in Section 2.1.2.

Environmental Factors Not Discussed Further

The analysis of potential environmental impacts in Section 3.0 concluded that the proposed Project would have no impact to Agriculture, Mineral Resources, Population and Housing, Recreation, and Wildfire. The proposed Project would therefore not have the potential to considerably contribute to cumulative impacts in these issue areas and they are not considered further in this analysis.

Environmental Factors Analyzed Cumulatively

The following is a discussion of potential cumulative impacts.

Aesthetics

Six local projects have been determined to be a related project as defined by CEQA Guidelines 15130(b). All of which are located approximately 1.70- to 4.5-miles of the proposed Project. As stated above, current lighting conditions on and in the vicinity of the project site are minimal. The project level analysis concluded that impacts to aesthetics from the proposed Project were less than significant after implementation of mitigation. Each of the current and foreseeable projects have been or is being designed in accordance with CEQA and the City General Plan and zoning code. The geographic scope of the potential cumulative impacts with respect to aesthetics is usually limited to areas within the same viewshed as the Project. Therefore, visual resource impacts of the related projects are site-specific and would not result in a cumulative impact with other projects as they are not in the same viewshed. The proposed Project's contribution to cumulative aesthetics impacts would be less than cumulatively considerable.

Air Quality

Six local projects have been determined to be a related project as defined by CEQA Guidelines 15130(b). All of which are located approximately 1.70- to 4.5-miles of the proposed Project. The overall air quality impacts of the Project are expected to be below significance thresholds. The project level analysis concluded that impacts to air quality would be less than significant because they are below MDAQMD thresholds and would be subject to MDAQMD dust control measures ((Mitigation Measure AQ-1 (Dust Control).

Other significantly large projects in the Basin are not believed to be under consideration for construction during construction of the proposed Project. Should such a project exist; however, it would be subject to the MDAQMD regulatory program and permitting standards, including the requirement to minimize

emissions through the utilization of BACT, the full mitigation of emissions through offset programs, and demonstrations that the Project would not cause or significantly add to a violation of California or federal ambient air quality standards. In addition, the project as well as most of the related cumulative projects would comply with the district's rules review process. Therefore, the project's incremental contribution to that impact is not cumulatively considerable.

Biological Resources

Based on the analysis presented above, significant direct or construction related impacts to special-status plants and wildlife, and jurisdictional waters are not expected to occur or have been mitigated to less than significant levels. Operational impacts would not result in additional significant impacts. There are no known bird or bat migratory corridors that would be directly impeded by the proposed Project. Large concentrations of migrants are not known to utilize any specific portion of the proposed Project site and construction and O&M activities are not expected to preclude use of the area. Migrating birds would have access to suitable habitat within the adjacent areas. Although species would be disrupted during certain activities impacts to migratory corridors from the proposed Project would not be significant. Impacts to sensitive wildlife, sensitive plants, jurisdictional waters and wildlife corridors, when combined with past, present, and probable future projects, would not be cumulatively considerable.

However, the proposed Project would result in direct impacts to native vegetation known to support-special status plants and wildlife. Although impacts to native habitat, resulting from the proposed Project, would be mitigated to less than significant levels, the overall loss of these communities within California, and their suitability to support several special- status species, the loss of this habitat when combined with past, present, and probable future projects could be a cumulatively significant impact if not mitigated.

Implementation of Mitigation Measures BIO-1 through BIO-14 would reduce the proposed Project's contribution of cumulative impacts. These measures include worker education describing the sensitive biological resources that occur on the proposed Project site, implementation of BMPs to minimize and avoid impacts, pre-construction surveys, nesting bird buffer protocols, conducting biological monitoring during ground-disturbing and other construction-related activities, and providing habitat mitigation for certain plant and wildlife species to offset habitat loss. Implementation of these mitigation measures and others would reduce the proposed Project's contribution to cumulative impacts such that they would not be cumulatively considerable.

Cultural Resources

Construction and operation of the project would include activities limited to the confines of the proposed Project site. As described above, the tribal consultation has determined that the proposed Project is unlikely to adversely affect tribal cultural resources with implementation of Mitigation Measure CULT-1 (avoidance plan) and CULT-2 (monitoring plan). With implementation of these measures, the Project is avoiding (leaving in place) known resources determined eligible, as well as providing monitoring during construction. Because identified Tribal Cultural resources will be avoided (left in place), and CUL-2 requires monitoring and treatment of unexpected discoveries, there will be a less than significant impact to Tribal Cultural Resources, and as such, the project would not contribute to any cumulative impacts.



Energy

The proposed Project-level analysis concluded that there would be less than significant impacts to energy resources because the proposed Project's primary objective is to produce a new source of renewable power. Thus, the proposed Project plus related cumulative projects would result in no significant cumulative impacts to energy resources. Therefore, the proposed Project's contribution to cumulative energy resources impacts would not be cumulatively considerable.

Geology and Soils

The proposed Project-level analysis concluded that impacts to geology and soils would be less than significant with the implementation of the proposed Project Mitigation Measures GE0-1 and GEO-2. The proposed Project's impacts with respect to geology and soils are not of a nature to cause cumulatively significant impacts because these impacts are site-specific and only have the potential to combine with other projects' impacts if they are located in very close proximity. Because no impacts to paleontological resources were identified, and GEO-2 ensures unexpected discoveries will be treated, The cumulative projects are approximately 1.7 miles to 4.5 miles away from the proposed Project. Based on the distance between the proposed Project and cumulative projects. Moreover, the combination of the proposed Project and the related cumulative projects could result in significant cumulative impacts to geology and soils. To reduce its contribution to potential cumulative geology and soils impacts, the proposed Project would incorporate mitigation measures BIO-2, GEO-1, and GEO-2 into project implementation. With incorporation of the recommended mitigation measures, the proposed Project's contribution to cumulative geology and soils impacts to fossil resources would be less than cumulatively considerable.

Greenhouse Gas

The proposed Project-level analysis concluded impacts to greenhouse gas emissions were less than significant and do not require mitigation. The nature of GHGs is cumulative, as the accumulation of GHGs from sources around the world contributes to climate change, which by definition would include the related cumulative projects. There is no guidance from the District regarding the significance of construction- or decommission-related emissions. AB 32 requires that GHGs be reduced by 40 percent below the 1990 levels by 2030. Construction emissions would occur prior to the year 2030; therefore, the emissions would not impede implementation of AB 32. As shown on Table 13 above, construction of the proposed Project would result in a maximum annual emission of 1,096 CO2e per year, which is below the MDAQMD's threshold of 100,000 metric tons of CO2e per year. Considering the above, and in light of the CO2e which would be displaced by operation of the Project, the proposed Project would not generate GHG emissions either directly or indirectly that may have a significant impact on the environment.

Additionally, the proposed Project would reduce emissions of GHGs during operation as compared to uses presently occurring on-site. The proposed Project would reduce existing baseline emissions, which is more than the District's significance threshold. Therefore, the proposed Project's emissions have less than significant cumulative impacts and therefore are not cumulatively considerable.

Hazards and Hazardous Materials



Depending on timing for implementation of the projects considered in the cumulative impact analysis, there could be a temporary increase in the transport, use, storage, and disposal of hazardous materials during construction of the projects considered in the cumulative impact analysis. However, hazardous materials that will be used during construction activities are common to the construction and industrial trade and are regulated in accordance with the California Code of Regulations (CCR) Title 22, 23, 26, & 27, 29 CFR 1910.119, California Fire Codes CFR Title 24, and City of Adelanto Fire Department Health and Safety code. Additionally, the proposed Project is located 1.7 to 4.5 miles from the cumulative project and there would be no cumulative interaction construction activities of hazardous materials among the facilities considered in the cumulative impact analysis. Therefore, the Project would not contribute to cumulatively considerable hazards and hazardous materials impacts during construction activities.

During operation of the projects considered in the cumulative impact analysis, hazardous materials would continue to be transported, used, stored, and disposed according to current procedures and in accordance with regulatory requirements. Therefore, the Project would not contribute to cumulatively considerable hazards and hazardous materials impacts during operation. Therefore, the proposed Project's contribution to cumulative hazards and hazardous materials impacts would be less than cumulatively considerable.

Hydrology and Water Quality

During construction, the proposed Project would be required to comply with an National Pollutant Discharge Elimination System (NPDES) construction permit, including the preparation of a SWPPP that requires the incorporation of BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. Additionally, the proposed Project would comply with the waste discharge prohibitions and water quality objectives established by the RWQCB that are incorporated into the project as design features. As such, it is not anticipated that the proposed Project would violate any water quality standards or waste discharge requirements. As the cumulative projects are approximately 1.7 miles to 4.5 miles from the proposed Project and because potential impacts to hydrology and water quality are site-specific, each of the related cumulative projects would either conclude that no or less than significant impacts would occur or would include their own mitigation specific to the unique drainage and water quality characteristics of the individual site and project. Additionally, all related cumulative projects would be required to comply with the provisions contained with their National Pollutant Discharge Elimination System (NPDES) construction permit, including the preparation of a SWPPP. Therefore, based on the absent potential to combine with other projects' impacts, the proposed Project would not have cumulatively considerable hydrology and water quality impacts.

Land Use

The proposed Project-level analysis concluded that impacts to land use and planning were less than significant and do not require mitigation. Additionally, the related cumulative projects are situated in a manner that a potential land use conflict at one project site would be unlikely to affect another site. Although the proposed Project's proposed code amendment may ultimately facilitate the development of additional solar projects, at this time no such projects are probable or even reasonably foreseeable.



Moreover, any future solar project relying on the proposed code amendment would undergo its own CEQA review to ensure consistency with land use and planning standards. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to land use and planning. Therefore, the proposed Project's contribution to cumulative land use and planning impacts would be less than cumulatively considerable.

Noise

The nearest cumulative project considered in this analysis is located approximately 1.70 miles from the proposed Project. Because of the distance between the Project to the other projects evaluated in this analysis, potential cumulative noise impacts would be less than significant. site.

Public Services

The proposed Project-level analysis concluded that impacts to public services were nonexistent or less than significant and do not require mitigation. All but one (22 single family homes with a 48-unit subdivision) of the related cumulative projects would exhibit similar low demand for these public services. In addition, security services to the related cumulative projects would be provided through remote security monitoring services that would reduce the demand for both police protection services and fire protection services. In addition, these types of facilities would employ workers from the existing labor pool and would not result in an increased demand for school services, parks, or other facilities such as hospitals, libraries, and community centers. Even if the 22 single family homes with a 48-unit subdivision required additional services, there would be no potential for cumulative impacts, as the proposed Project has none to less than significant impacts on public services. Therefore, the proposed Project's contribution to cumulative public services impacts would be less than cumulatively considerable.

Transportation

The proposed Project-level analysis concluded that impacts to transportation and traffic were less than significant with the implementation of mitigation measure TRA-1 (Traffic Management Plan). All the related cumulative projects are located in the vicinity of the proposed Project. However, because of the multiple roadways that would be used by, the staggered construction schedules of the related cumulative projects, and the nominal amount of traffic that would be generated during the operations phases of these facilities, only incremental impacts to the overall effectiveness of the local and regional circulation system are anticipated, and overall, less than significant cumulative impacts would occur. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to transportation and traffic. Therefore, the proposed Project's contribution to cumulative transportation and traffic impacts would be less than cumulatively considerable.

Tribal Cultural Resources

Construction and operation of the project would include activities limited to the confines of the proposed Project site. As described above, the tribal consultation has determined that the proposed Project is unlikely to adversely affect tribal cultural resources with implementation of Mitigation Measure CULT-1



(avoidance plan) and CULT-2 (monitoring plan). With implementation of these measures, the Project is avoiding (leaving in place) known resources determined eligible, as well as providing monitoring during construction. Because identified Tribal Cultural resources will be avoided (left in place), and CUL-2 requires monitoring and treatment of unexpected discoveries, there will be a less than significant impact to Tribal Cultural Resources, and as such, the project would not contribute to any cumulative impacts.

Utilities and Services

The proposed Project-level analysis concluded that impacts to utilities and service systems were less than significant and do not require mitigation. Because the related cumulative projects would demand less water due to reduced agriculture operations, would not require wastewater treatment facilities or storm drain systems, and would not exceed landfill capacity, less than significant cumulative impacts would occur. Thus, the proposed Project plus related cumulative projects would result in less than significant cumulative impacts to utilities and service systems. Therefore, the proposed Project's contribution to cumulative utilities and service systems impacts would be less than cumulatively considerable.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Based on the results of the Impact Analysis (Section 3.0), the proposed Project is not expected to have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly.

4.0 PROPOSED FINDING

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation: ☐
I find that the proposed Baldy Mesa Solar Project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed Baldy Mesa Solar Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared. *Attached Mitigation Measures and Monitoring Program.* ☒

I find that the proposed Baldy Mesa Solar Project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐

I find that the proposed Baldy Mesa Solar Project **MAY** have a significant effect on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed Baldy Mesa Solar Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, nothing further is required. ☐

Signature: _____ **Date:** 9/2/2020

5.0 LIST OF PREPARERS

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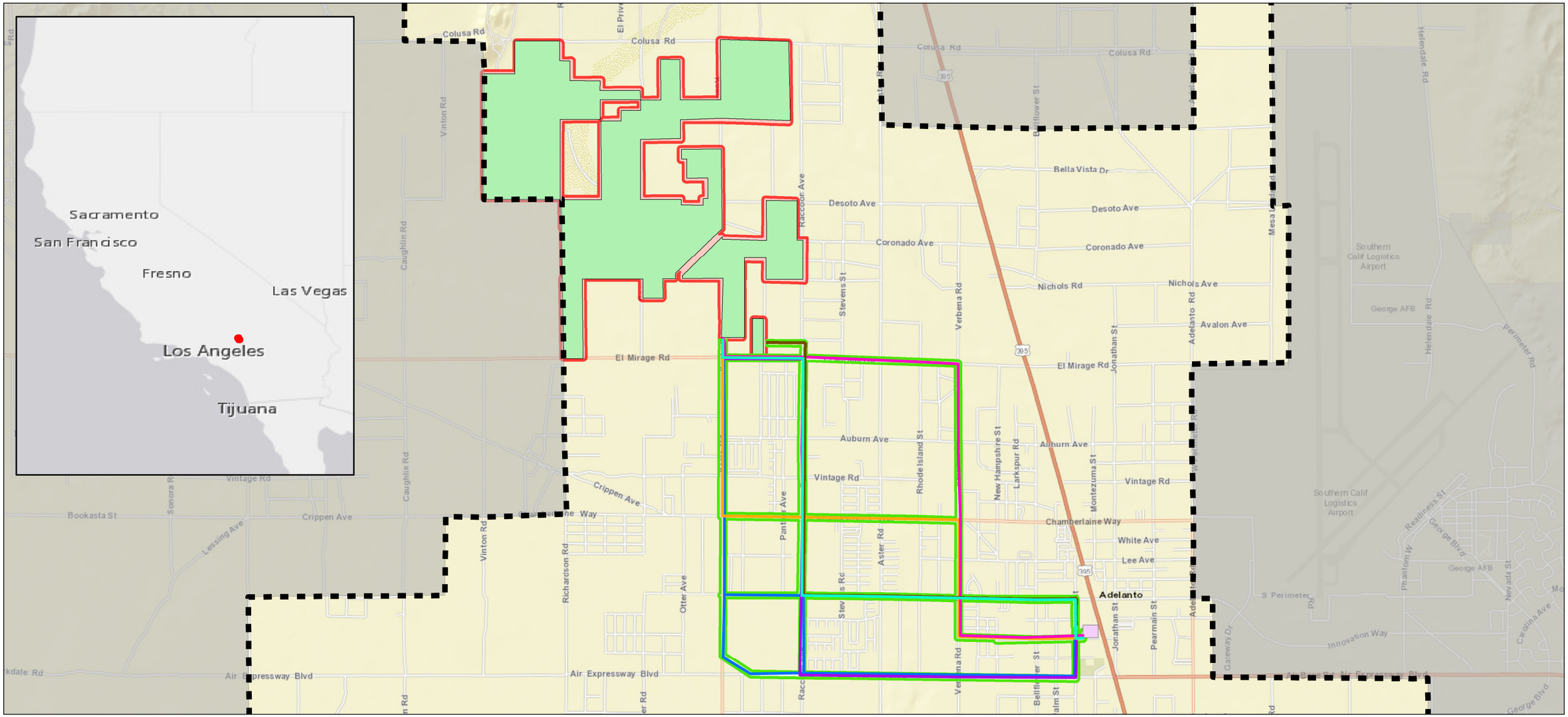
Figures

Figure 1: Project Location

Figure 2a: Site Plan: Facility Layout & 2b: Site Plan Gen-Tie Options

Figure 3a: Zoning Codes: Facility Layout & 3b: Zoning Codes: Gen-Tie Options



Project Area
Survey Area
Survey Area - Gen-Tie Options
Gen Tie Option 1
Gen Tie Option 2
Gen Tie Option 3a/ 3b
Gen Tie Option 4
Gen Tie Option 5
Gen Tie Option 6
Southern California Edison Roadway Substation
City Boundary
San Bernardino County Boundary

Notes
1. Coordinate System: GCS North American 1983
2. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

0 950 1,900 metres
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1:49,851

N

Stantec

Project Location
Adelanto, CA

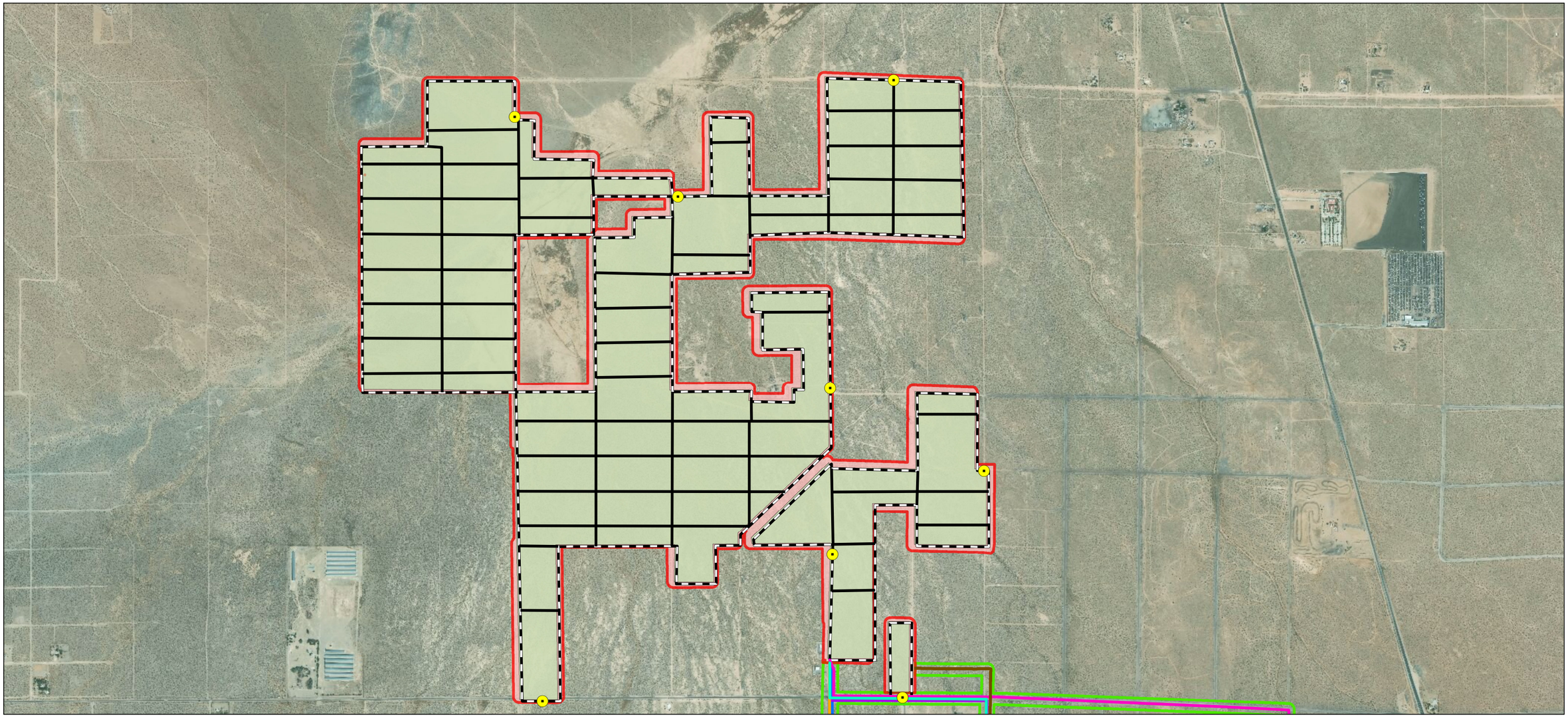
Prepared by DL on 2019-07-10
TR by JV on 2019-07-10
IR Review by SR on 2019-07-10

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
1

Title
Project Location



Project Area
Survey Area
Survey Area - Gen-Tie Options
Gen Tie Option 1
Gen Tie Option 2
Gen Tie Option 3a/ 3b
Gen Tie Option 4
Gen Tie Option 5
Gen Tie Option 6
Fencing
All- Weather Site Access Road
Primary Site Acess With Swing Gate

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(At original document size of 11x17)
1:25,564

N

Stantec

Project Location
Adelanto, CA

Prepared by DL on 2019-07-10
TR by JV on 2019-07-10
IR Review by SR on 2019-07-10

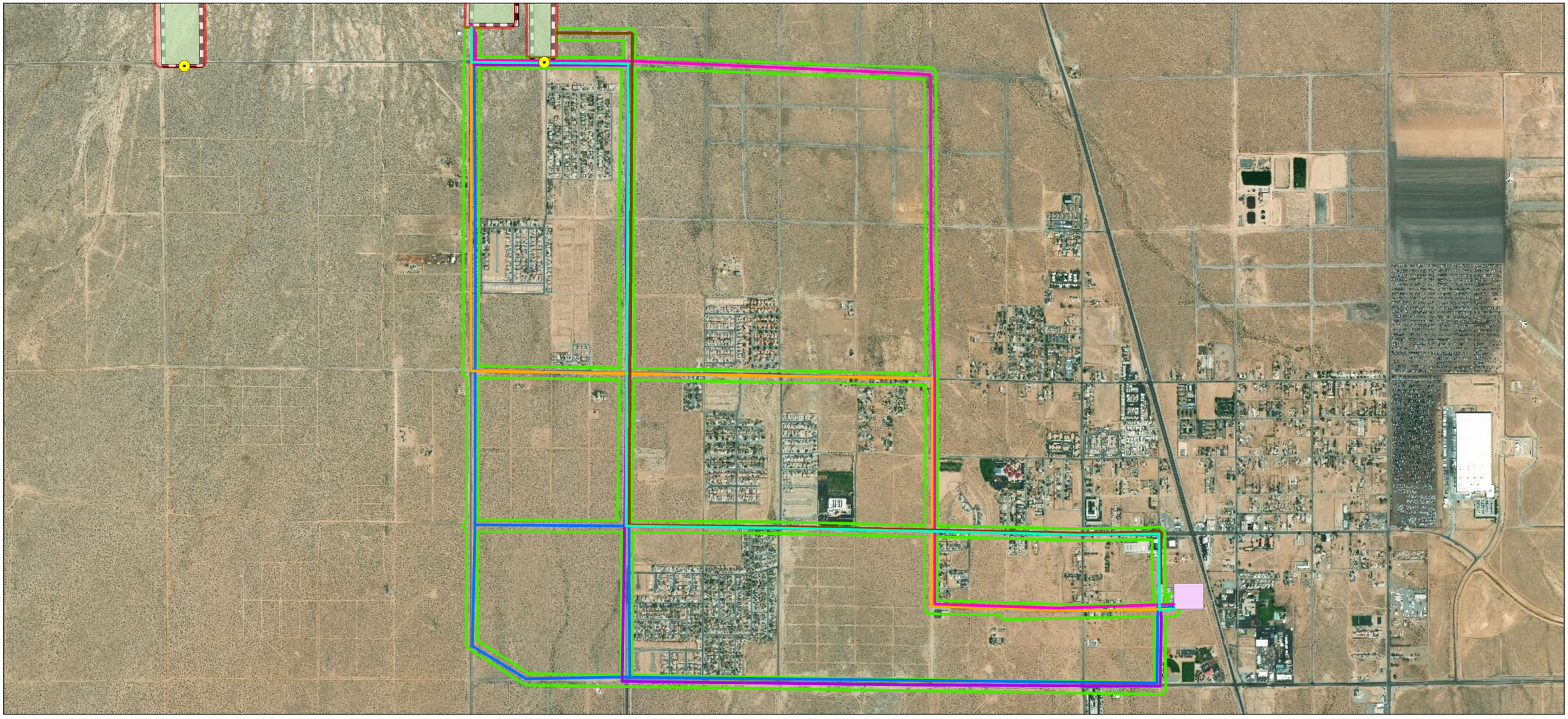
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
2a

Title
Generation Facility

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Project Area
- Survey Area
- Survey Area - Gen-Tie Options
- Gen Tie Option 1
- Gen Tie Option 2
- Gen Tie Option 3a/ 3b
- Gen Tie Option 4
- Gen Tie Option 5
- Gen Tie Option 6
- Southern California Edison Roadway Substation
- Fencing
- Primary Site Acess With Swing Gate

0 490 980 metres

(At original document size of 11x17)
1:25,570

N

Stantec

Project Location
Adelanto, CA

Prepared by DL on 2019-07-10
TR by JV on 2019-07-10
IR Review by SR on 2019-07-10

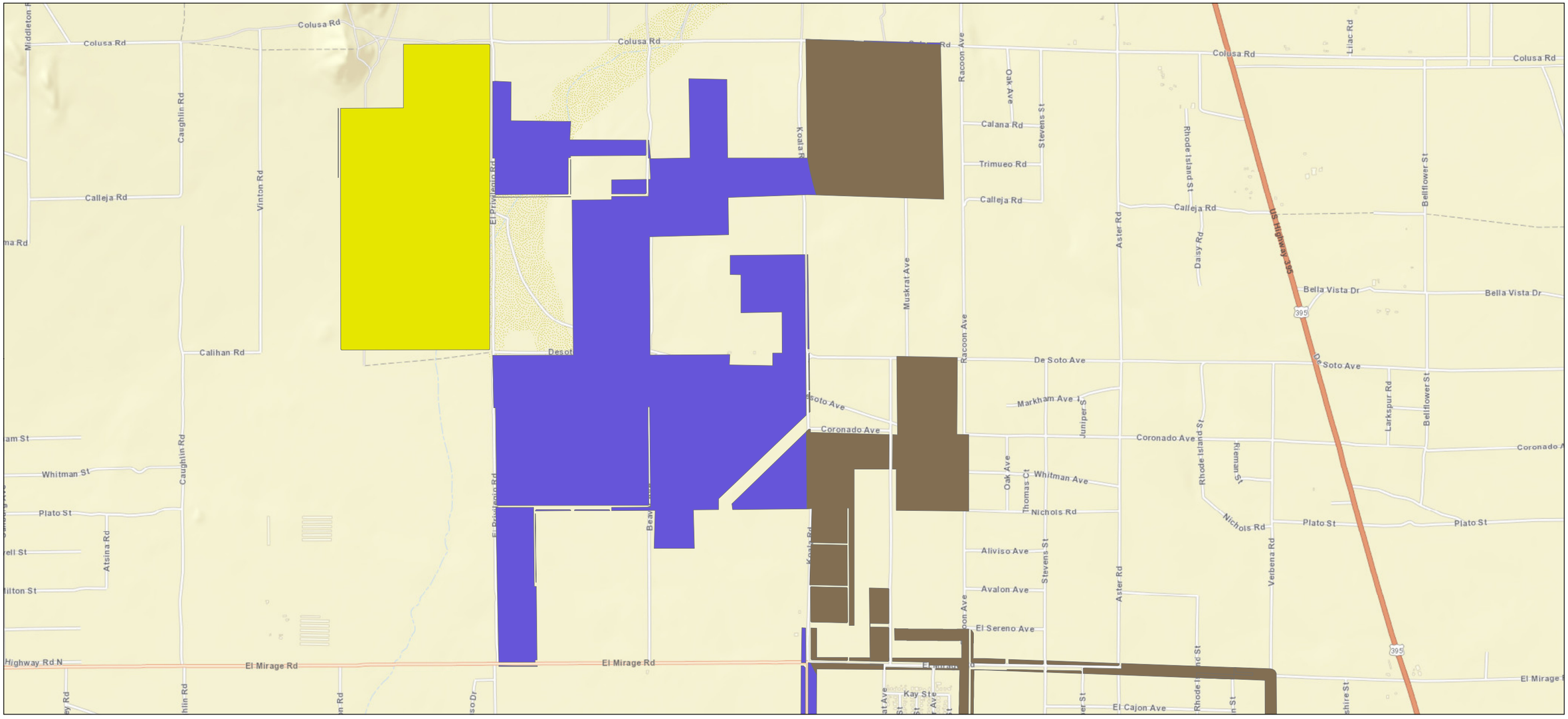
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
2b

Title
Gen-Tie Options

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project Zoning Codes

- DL 5
- DL2.5
- OS

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Stantec

Project Location	Prepared by DL on 2019-07-10
	TR by JV on 2019-07-10
Adelanto, CA	IR Review by SR on 2019-07-10
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

3a

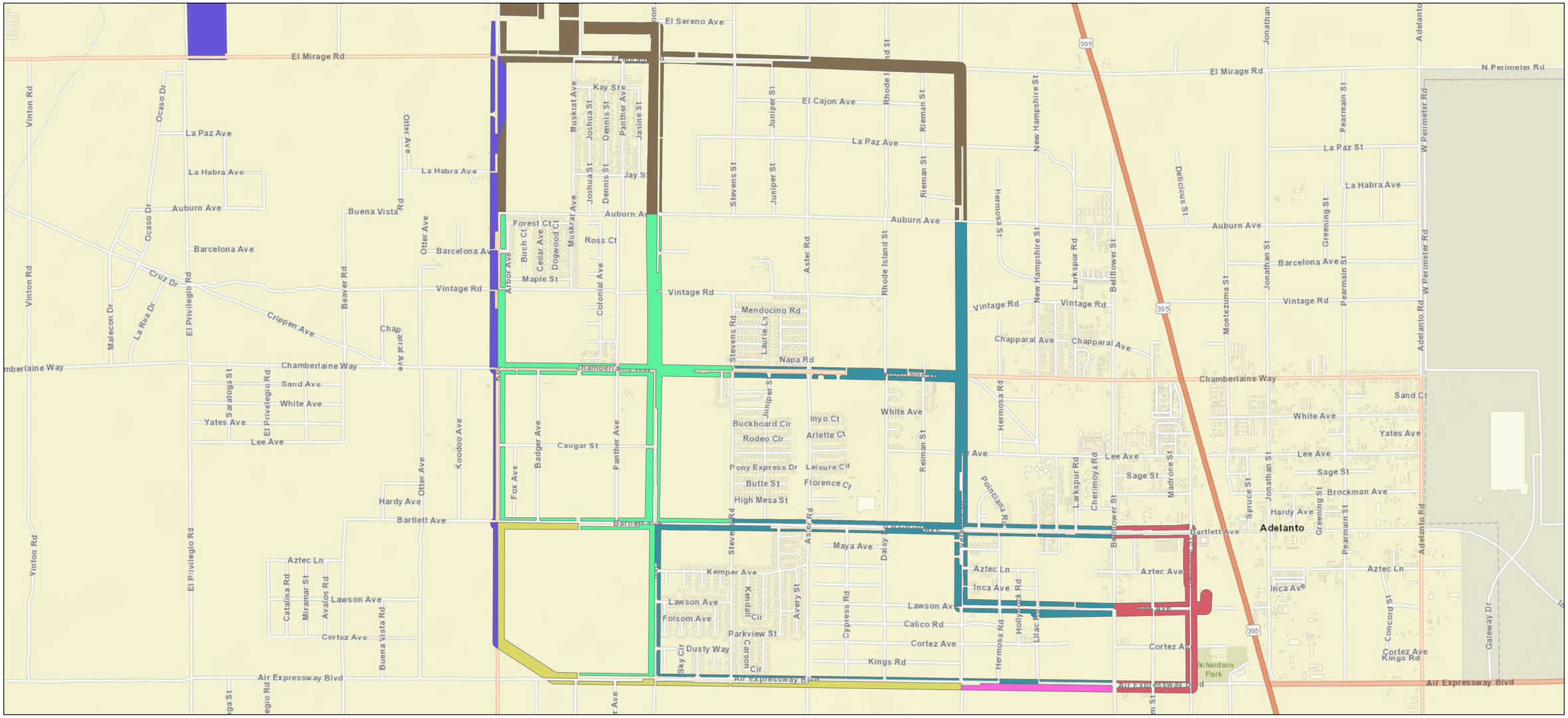
Title

Generation Facility

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Gen-Tie Zoning Codes

- DL 5
- DL2.5
- LM
- MU
- R-M12
- R-S1
- R-S5

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(At original document size of 11x17)
1:25,384

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Stantec

Project Location	Prepared by DL on 2019-07-10 TR by JV on 2019-07-10 IR Review by SR on 2019-07-10
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

3b

Title

Gen-Tie Options

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix A AQ/GHG

A.1 CALEEMOD ANNUAL OUTPUT

baldy

Mojave Desert AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	52,272.00	1000sqft	1,200.00	52,272,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Scheldue based on PD (18 months of construction)

Off-road Equipment - Construction equipment based on PD

Off-road Equipment - Contruction equipment based on PD

Off-road Equipment - Construction equipment based on PD

Vehicle Trips - Assumes three employee trips per day. 3 trips per day/52,272 1000sqft = 0.0000058 trips/size/day

Consumer Products - No consumer products proposed

Area Coating - No architectural coating for operations

Landscape Equipment - Minimal landscaping required

Water And Wastewater - Based on two panel cleaning events per year. No wastewater generation anticipated.

Area Mitigation - No hearths, consumer products, architictural coating, or landscape equipment proposed as part of the project

Solid Waste - No solid waste generated

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	155,000.00	260.00
tblConstructionPhase	NumDays	6,000.00	65.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConsumerProducts	ROG_EF	2.14E-05	2.14E-54
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	3.542E-60
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	5.152E-70
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00

tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	2.20	0.00
tblEnergyUse	T24NG	15.36	0.00
tblGrading	AcresOfGrading	0.00	350.00
tblLandscapeEquipment	NumberSnowDays	0	20
tblLandscapeEquipment	NumberSummerDays	180	20
tblOffRoadEquipment	HorsePower	231.00	399.00
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tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	HorsePower	247.00	357.00
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tblOffRoadEquipment	HorsePower	97.00	108.00
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tblOffRoadEquipment	HorsePower	100.00	93.00
tblOffRoadEquipment	HorsePower	247.00	357.00
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tblOffRoadEquipment	HorsePower	78.00	63.00
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tblOffRoadEquipment	LoadFactor	0.74	0.50

tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.74	0.50
tblOffRoadEquipment	LoadFactor	0.74	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.40	0.60
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tblOffRoadEquipment	LoadFactor	0.50	0.75
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
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tblSolidWaste	SolidWasteGenerationRate	64,817.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	26.00

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tblTripsAndVMT	WorkerTripNumber	30.00	200.00
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tblVehicleTrips	ST_TR	1.32	0.00
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tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
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tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
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tblWater	IndoorWaterUseRate	12,087,900,000.00	0.00
tblWater	OutdoorWaterUseRate	0.00	1,000,000.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.8812	7.0229	6.2159	0.0123	0.7778	0.3454	1.1232	0.2611	0.3186	0.5797	0.0000	1,089.8499	1,089.8499	0.2626	0.0000	1,096.4142
2021	0.7949	5.9900	5.6039	0.0108	0.2213	0.3057	0.5270	0.0591	0.2824	0.3414	0.0000	948.3033	948.3033	0.2377	0.0000	954.2458
Maximum	**0.8812**	**7.0229**	**6.2159**	**0.0123**	**0.7778**	**0.3454**	**1.1232**	**0.2611**	**0.3186**	**0.5797**	**0.0000**	**1,089.8499**	**1,089.8499**	**0.2626**	**0.0000**	**1,096.4142**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.8812	7.0229	6.2158	0.0123	0.7778	0.3454	1.1232	0.2611	0.3186	0.5797	0.0000	1,089.8490	1,089.8490	0.2626	0.0000	1,096.4132
2021	0.7949	5.9900	5.6039	0.0108	0.2213	0.3057	0.5270	0.0591	0.2824	0.3414	0.0000	948.3025	948.3025	0.2377	0.0000	954.2449
Maximum	**0.8812**	**7.0229**	**6.2158**	**0.0123**	**0.7778**	**0.3454**	**1.1232**	**0.2611**	**0.3186**	**0.5797**	**0.0000**	**1,089.8490**	**1,089.8490**	**0.2626**	**0.0000**	**1,096.4132**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-30-2020	6-29-2020	2.5619	2.5619
2	6-30-2020	9-29-2020	1.6693	1.6693
3	9-30-2020	12-29-2020	3.5325	3.5325
4	12-30-2020	3-29-2021	3.1608	3.1608
5	3-30-2021	6-29-2021	3.2252	3.2252
6	6-30-2021	9-29-2021	0.4908	0.4908
		Highest	3.5325	3.5325

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0100	9.8000e-004	0.1072	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.2076	0.2076	5.5000e-004	0.0000	0.2213
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.0992	3.0992	1.3000e-004	3.0000e-005	3.1103
Total	**0.0100**	**9.8000e-004**	**0.1072**	**1.0000e-005**	**0.0000**	**3.8000e-004**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**3.8000e-004**	**0.0000**	**3.3068**	**3.3068**	**6.8000e-004**	**3.0000e-005**	**3.3317**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0100	9.8000e-004	0.1072	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.2076	0.2076	5.5000e-004	0.0000	0.2213
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.0992	3.0992	1.3000e-004	3.0000e-005	3.1103
Total	**0.0100**	**9.8000e-004**	**0.1072**	**1.0000e-005**	**0.0000**	**3.8000e-004**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**3.8000e-004**	**0.0000**	**3.3068**	**3.3068**	**6.8000e-004**	**3.0000e-005**	**3.3317**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/30/2020	6/12/2020	6	65	
2	Trenching	Trenching	6/15/2020	8/28/2020	6	65	
3	PV System Installation	Building Construction	9/14/2020	7/13/2021	6	260	

Acres of Grading (Site Preparation Phase): 350

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Generator Sets	2	2.00	15	0.50
Site Preparation	Off-Highway Trucks	4	8.00	189	0.50
Site Preparation	Rollers	1	8.00	95	0.56
Site Preparation	Rough Terrain Forklifts	1	8.00	93	0.60
Site Preparation	Rubber Tired Dozers	2	6.00	357	0.59
Site Preparation	Tractors/Loaders/Backhoes	2	7.00	108	0.55
Trenching	Generator Sets	2	2.00	15	0.50
Trenching	Off-Highway Trucks	4	8.00	189	0.50
Trenching	Tractors/Loaders/Backhoes	2	7.00	108	0.55
Trenching	Trenchers	2	8.00	63	0.75
PV System Installation	Cranes	1	7.00	399	0.43
PV System Installation	Forklifts	2	8.00	145	0.30
PV System Installation	Generator Sets	2	2.00	15	0.50
PV System Installation	Off-Highway Trucks	4	8.00	189	0.50
PV System Installation	Other Construction Equipment	8	6.00	47	0.40
PV System Installation	Rubber Tired Dozers	1	6.00	357	0.59
PV System Installation	Tractors/Loaders/Backhoes	2	7.00	108	0.55
PV System Installation	Trenchers	2	8.00	63	0.75
PV System Installation	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	12	200.00	26.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	10	200.00	26.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
PV System Installation	24	200.00	26.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4792	0.0000	0.4792	0.1814	0.0000	0.1814	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1954	1.9695	1.5343	2.5600e-003		0.0919	0.0919		0.0846	0.0846	0.0000	224.8612	224.8612	0.0725	0.0000	226.6732
Total	**0.1954**	**1.9695**	**1.5343**	**2.5600e-003**	**0.4792**	**0.0919**	**0.5711**	**0.1814**	**0.0846**	**0.2660**	**0.0000**	**224.8612**	**224.8612**	**0.0725**	**0.0000**	**226.6732**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0853	0.0210	2.3000e-004	5.1100e-003	3.6000e-004	5.4700e-003	1.4700e-003	3.5000e-004	1.8200e-003	0.0000	22.0700	22.0700	2.1200e-003	0.0000	22.1231
Worker	0.0381	0.0329	0.2919	7.6000e-004	0.0815	5.0000e-004	0.0820	0.0217	4.6000e-004	0.0221	0.0000	68.6307	68.6307	2.2700e-003	0.0000	68.6874
Total	**0.0409**	**0.1182**	**0.3129**	**9.9000e-004**	**0.0867**	**8.6000e-004**	**0.0875**	**0.0231**	**8.1000e-004**	**0.0239**	**0.0000**	**90.7007**	**90.7007**	**4.3900e-003**	**0.0000**	**90.8105**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4792	0.0000	0.4792	0.1814	0.0000	0.1814	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1954	1.9695	1.5343	2.5600e-003		0.0919	0.0919		0.0846	0.0846	0.0000	224.8609	224.8609	0.0725	0.0000	226.6729
Total	**0.1954**	**1.9695**	**1.5343**	**2.5600e-003**	**0.4792**	**0.0919**	**0.5711**	**0.1814**	**0.0846**	**0.2660**	**0.0000**	**224.8609**	**224.8609**	**0.0725**	**0.0000**	**226.6729**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0853	0.0210	2.3000e-004	5.1100e-003	3.6000e-004	5.4700e-003	1.4700e-003	3.5000e-004	1.8200e-003	0.0000	22.0700	22.0700	2.1200e-003	0.0000	22.1231
Worker	0.0381	0.0329	0.2919	7.6000e-004	0.0815	5.0000e-004	0.0820	0.0217	4.6000e-004	0.0221	0.0000	68.6307	68.6307	2.2700e-003	0.0000	68.6874
Total	**0.0409**	**0.1182**	**0.3129**	**9.9000e-004**	**0.0867**	**8.6000e-004**	**0.0875**	**0.0231**	**8.1000e-004**	**0.0239**	**0.0000**	**90.7007**	**90.7007**	**4.3900e-003**	**0.0000**	**90.8105**

3.3 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1137	1.0501	0.7312	1.6300e-003		0.0565	0.0565		0.0521	0.0521	0.0000	142.5560	142.5560	0.0459	0.0000	143.7025
Total	**0.1137**	**1.0501**	**0.7312**	**1.6300e-003**		**0.0565**	**0.0565**		**0.0521**	**0.0521**	**0.0000**	**142.5560**	**142.5560**	**0.0459**	**0.0000**	**143.7025**

3.3 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0853	0.0210	2.3000e-004	5.1100e-003	3.6000e-004	5.4700e-003	1.4700e-003	3.5000e-004	1.8200e-003	0.0000	22.0700	22.0700	2.1200e-003	0.0000	22.1231
Worker	0.0381	0.0329	0.2919	7.6000e-004	0.0815	5.0000e-004	0.0820	0.0217	4.6000e-004	0.0221	0.0000	68.6307	68.6307	2.2700e-003	0.0000	68.6874
Total	**0.0409**	**0.1182**	**0.3129**	**9.9000e-004**	**0.0867**	**8.6000e-004**	**0.0875**	**0.0231**	**8.1000e-004**	**0.0239**	**0.0000**	**90.7007**	**90.7007**	**4.3900e-003**	**0.0000**	**90.8105**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1137	1.0501	0.7312	1.6300e-003		0.0565	0.0565		0.0521	0.0521	0.0000	142.5559	142.5559	0.0459	0.0000	143.7024
Total	**0.1137**	**1.0501**	**0.7312**	**1.6300e-003**		**0.0565**	**0.0565**		**0.0521**	**0.0521**	**0.0000**	**142.5559**	**142.5559**	**0.0459**	**0.0000**	**143.7024**

3.3 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7700e-003	0.0853	0.0210	2.3000e-004	5.1100e-003	3.6000e-004	5.4700e-003	1.4700e-003	3.5000e-004	1.8200e-003	0.0000	22.0700	22.0700	2.1200e-003	0.0000	22.1231
Worker	0.0381	0.0329	0.2919	7.6000e-004	0.0815	5.0000e-004	0.0820	0.0217	4.6000e-004	0.0221	0.0000	68.6307	68.6307	2.2700e-003	0.0000	68.6874
Total	**0.0409**	**0.1182**	**0.3129**	**9.9000e-004**	**0.0867**	**8.6000e-004**	**0.0875**	**0.0231**	**8.1000e-004**	**0.0239**	**0.0000**	**90.7007**	**90.7007**	**4.3900e-003**	**0.0000**	**90.8105**

3.4 PV System Installation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4312	3.5959	2.8719	4.7100e-003		0.1940	0.1940		0.1792	0.1792	0.0000	409.8641	409.8641	0.1291	0.0000	413.0915
Total	**0.4312**	**3.5959**	**2.8719**	**4.7100e-003**		**0.1940**	**0.1940**		**0.1792**	**0.1792**	**0.0000**	**409.8641**	**409.8641**	**0.1291**	**0.0000**	**413.0915**

3.4 PV System Installation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0100e-003	0.1233	0.0304	3.4000e-004	7.3900e-003	5.2000e-004	7.9100e-003	2.1300e-003	5.0000e-004	2.6300e-003	0.0000	31.9166	31.9166	3.0700e-003	0.0000	31.9934
Worker	0.0551	0.0476	0.4221	1.1000e-003	0.1179	7.3000e-004	0.1187	0.0313	6.7000e-004	0.0320	0.0000	99.2506	99.2506	3.2800e-003	0.0000	99.3326
Total	**0.0591**	**0.1710**	**0.4525**	**1.4400e-003**	**0.1253**	**1.2500e-003**	**0.1266**	**0.0334**	**1.1700e-003**	**0.0346**	**0.0000**	**131.1672**	**131.1672**	**6.3500e-003**	**0.0000**	**131.3259**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4312	3.5959	2.8719	4.7100e-003		0.1940	0.1940		0.1792	0.1792	0.0000	409.8636	409.8636	0.1291	0.0000	413.0911
Total	**0.4312**	**3.5959**	**2.8719**	**4.7100e-003**		**0.1940**	**0.1940**		**0.1792**	**0.1792**	**0.0000**	**409.8636**	**409.8636**	**0.1291**	**0.0000**	**413.0911**

3.4 PV System Installation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0100e-003	0.1233	0.0304	3.4000e-004	7.3900e-003	5.2000e-004	7.9100e-003	2.1300e-003	5.0000e-004	2.6300e-003	0.0000	31.9166	31.9166	3.0700e-003	0.0000	31.9934
Worker	0.0551	0.0476	0.4221	1.1000e-003	0.1179	7.3000e-004	0.1187	0.0313	6.7000e-004	0.0320	0.0000	99.2506	99.2506	3.2800e-003	0.0000	99.3326
Total	**0.0591**	**0.1710**	**0.4525**	**1.4400e-003**	**0.1253**	**1.2500e-003**	**0.1266**	**0.0334**	**1.1700e-003**	**0.0346**	**0.0000**	**131.1672**	**131.1672**	**6.3500e-003**	**0.0000**	**131.3259**

3.4 PV System Installation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6984	5.7168	4.8788	8.3100e-003		0.3042	0.3042		0.2809	0.2809	0.0000	723.6550	723.6550	0.2274	0.0000	729.3394
Total	**0.6984**	**5.7168**	**4.8788**	**8.3100e-003**		**0.3042**	**0.3042**		**0.2809**	**0.2809**	**0.0000**	**723.6550**	**723.6550**	**0.2274**	**0.0000**	**729.3394**

3.4 PV System Installation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.2100e-003	0.1983	0.0470	5.9000e-004	0.0130	3.0000e-004	0.0133	3.7700e-003	2.8000e-004	4.0500e-003	0.0000	55.9247	55.9247	5.1700e-003	0.0000	56.0539
Worker	0.0903	0.0750	0.6780	1.8700e-003	0.2082	1.2400e-003	0.2095	0.0553	1.1400e-003	0.0564	0.0000	168.7237	168.7237	5.1500e-003	0.0000	168.8525
Total	**0.0966**	**0.2733**	**0.7251**	**2.4600e-003**	**0.2213**	**1.5400e-003**	**0.2228**	**0.0591**	**1.4200e-003**	**0.0605**	**0.0000**	**224.6483**	**224.6483**	**0.0103**	**0.0000**	**224.9064**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6984	5.7168	4.8788	8.3100e-003		0.3042	0.3042		0.2809	0.2809	0.0000	723.6542	723.6542	0.2274	0.0000	729.3386
Total	**0.6984**	**5.7168**	**4.8788**	**8.3100e-003**		**0.3042**	**0.3042**		**0.2809**	**0.2809**	**0.0000**	**723.6542**	**723.6542**	**0.2274**	**0.0000**	**729.3386**

3.4 PV System Installation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.2100e-003	0.1983	0.0470	5.9000e-004	0.0130	3.0000e-004	0.0133	3.7700e-003	2.8000e-004	4.0500e-003	0.0000	55.9247	55.9247	5.1700e-003	0.0000	56.0539
Worker	0.0903	0.0750	0.6780	1.8700e-003	0.2082	1.2400e-003	0.2095	0.0553	1.1400e-003	0.0564	0.0000	168.7237	168.7237	5.1500e-003	0.0000	168.8525
Total	**0.0966**	**0.2733**	**0.7251**	**2.4600e-003**	**0.2213**	**1.5400e-003**	**0.2228**	**0.0591**	**1.4200e-003**	**0.0605**	**0.0000**	**224.6483**	**224.6483**	**0.0103**	**0.0000**	**224.9064**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.538252	0.036119	0.174699	0.110250	0.018708	0.005523	0.008817	0.093315	0.001422	0.002225	0.008861	0.000710	0.001098

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0100	9.8000e-004	0.1072	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.2076	0.2076	5.5000e-004	0.0000	0.2213
Unmitigated	0.0100	9.8000e-004	0.1072	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.2076	0.2076	5.5000e-004	0.0000	0.2213

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0100	9.8000e-004	0.1072	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.2076	0.2076	5.5000e-004	0.0000	0.2213
Total	**0.0100**	**9.8000e-004**	**0.1072**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**0.2076**	**0.2076**	**5.5000e-004**	**0.0000**	**0.2213**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0100	9.8000e-004	0.1072	1.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	0.2076	0.2076	5.5000e-004	0.0000	0.2213
Total	**0.0100**	**9.8000e-004**	**0.1072**	**1.0000e-005**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**0.2076**	**0.2076**	**5.5000e-004**	**0.0000**	**0.2213**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.0992	1.3000e-004	3.0000e-005	3.1103
Unmitigated	3.0992	1.3000e-004	3.0000e-005	3.1103

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 1	3.0992	1.3000e-004	3.0000e-005	3.1103
Total		**3.0992**	**1.3000e-004**	**3.0000e-005**	**3.1103**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 1	3.0992	1.3000e-004	3.0000e-005	3.1103
Total		**3.0992**	**1.3000e-004**	**3.0000e-005**	**3.1103**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix A AQ/GHG

A.2 CALEEMOD SUMMER OUTPUT



baldy

Mojave Desert AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	52,272.00	1000sqft	1,200.00	52,272,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Scheldue based on PD (18 months of construction)

Off-road Equipment - Construction equipment based on PD

Off-road Equipment - Contruction equipment based on PD

Off-road Equipment - Construction equipment based on PD

Vehicle Trips - Assumes three employee trips per day. 3 trips per day/52,272 1000sqft = 0.0000058 trips/size/day

Consumer Products - No consumer products proposed

Area Coating - No architectural coating for operations

Landscape Equipment - Minimal landscaping required

Water And Wastewater - Based on two panel cleaning events per year. No wastewater generation anticipated.

Area Mitigation - No hearths, consumer products, architictural coating, or landscape equipment proposed as part of the project

Solid Waste - No solid waste generated

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	155,000.00	260.00
tblConstructionPhase	NumDays	6,000.00	65.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConsumerProducts	ROG_EF	2.14E-05	2.14E-54
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	3.542E-60
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	5.152E-70
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00

tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	2.20	0.00
tblEnergyUse	T24NG	15.36	0.00
tblGrading	AcresOfGrading	0.00	350.00
tblLandscapeEquipment	NumberSnowDays	0	20
tblLandscapeEquipment	NumberSummerDays	180	20
tblOffRoadEquipment	HorsePower	231.00	399.00
tblOffRoadEquipment	HorsePower	89.00	145.00
tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	HorsePower	247.00	357.00
tblOffRoadEquipment	HorsePower	97.00	108.00
tblOffRoadEquipment	HorsePower	97.00	108.00
tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	HorsePower	84.00	15.00
tblOffRoadEquipment	HorsePower	402.00	189.00
tblOffRoadEquipment	HorsePower	402.00	189.00
tblOffRoadEquipment	HorsePower	402.00	189.00
tblOffRoadEquipment	HorsePower	172.00	47.00
tblOffRoadEquipment	HorsePower	80.00	95.00
tblOffRoadEquipment	HorsePower	100.00	93.00
tblOffRoadEquipment	HorsePower	247.00	357.00
tblOffRoadEquipment	HorsePower	97.00	108.00
tblOffRoadEquipment	HorsePower	78.00	63.00
tblOffRoadEquipment	HorsePower	78.00	63.00
tblOffRoadEquipment	LoadFactor	0.29	0.43
tblOffRoadEquipment	LoadFactor	0.20	0.30
tblOffRoadEquipment	LoadFactor	0.74	0.50

tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.74	0.50
tblOffRoadEquipment	LoadFactor	0.74	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.38	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.40	0.60
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.50	0.75
tblOffRoadEquipment	LoadFactor	0.50	0.75
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	64,817.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	26.00

tblTripsAndVMT	VendorTripNumber	0.00	26.00
tblTripsAndVMT	VendorTripNumber	8,567.00	26.00
tblTripsAndVMT	WorkerTripNumber	30.00	200.00
tblTripsAndVMT	WorkerTripNumber	25.00	200.00
tblTripsAndVMT	WorkerTripNumber	21,954.00	200.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	12,087,900,000.00	0.00
tblWater	OutdoorWaterUseRate	0.00	1,000,000.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	10.5858	80.0391	72.4038	0.1333	17.4576	4.1536	20.3120	6.3053	3.8368	8.9329	0.0000	12,950.4922	12,950.4922	3.1834	0.0000	13,030.0773
2021	9.7185	72.0812	69.0528	0.1323	2.7141	3.6834	6.3975	0.7234	3.4018	4.1252	0.0000	12,846.4235	12,846.4235	3.1625	0.0000	12,925.4845
Maximum	**10.5858**	**80.0391**	**72.4038**	**0.1333**	**17.4576**	**4.1536**	**20.3120**	**6.3053**	**3.8368**	**8.9329**	**0.0000**	**12,950.4922**	**12,950.4922**	**3.1834**	**0.0000**	**13,030.0773**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	10.5858	80.0391	72.4038	0.1333	17.4576	4.1536	20.3120	6.3053	3.8368	8.9329	0.0000	12,950.4922	12,950.4922	3.1834	0.0000	13,030.0773
2021	9.7185	72.0812	69.0528	0.1323	2.7141	3.6834	6.3975	0.7234	3.4018	4.1252	0.0000	12,846.4235	12,846.4235	3.1625	0.0000	12,925.4845
Maximum	**10.5858**	**80.0391**	**72.4038**	**0.1333**	**17.4576**	**4.1536**	**20.3120**	**6.3053**	**3.8368**	**8.9329**	**0.0000**	**12,950.4922**	**12,950.4922**	**3.1834**	**0.0000**	**13,030.0773**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5004	0.0492	5.3578	4.0000e-004		0.0192	0.0192		0.0192	0.0192		11.4399	11.4399	0.0304		12.1994
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.5004**	**0.0492**	**5.3578**	**4.0000e-004**	**0.0000**	**0.0192**	**0.0192**	**0.0000**	**0.0192**	**0.0192**		**11.4399**	**11.4399**	**0.0304**	**0.0000**	**12.1994**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.5004	0.0492	5.3578	4.0000e-004		0.0192	0.0192		0.0192	0.0192		11.4399	11.4399	0.0304		12.1994
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.5004**	**0.0492**	**5.3578**	**4.0000e-004**	**0.0000**	**0.0192**	**0.0192**	**0.0000**	**0.0192**	**0.0192**		**11.4399**	**11.4399**	**0.0304**	**0.0000**	**12.1994**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/30/2020	6/12/2020	6	65	
2	Trenching	Trenching	6/15/2020	8/28/2020	6	65	
3	PV System Installation	Building Construction	9/14/2020	7/13/2021	6	260	

Acres of Grading (Site Preparation Phase): 350

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Generator Sets	2	2.00	15	0.50
Site Preparation	Off-Highway Trucks	4	8.00	189	0.50
Site Preparation	Rollers	1	8.00	95	0.56
Site Preparation	Rough Terrain Forklifts	1	8.00	93	0.60
Site Preparation	Rubber Tired Dozers	2	6.00	357	0.59
Site Preparation	Tractors/Loaders/Backhoes	2	7.00	108	0.55
Trenching	Generator Sets	2	2.00	15	0.50
Trenching	Off-Highway Trucks	4	8.00	189	0.50
Trenching	Tractors/Loaders/Backhoes	2	7.00	108	0.55
Trenching	Trenchers	2	8.00	63	0.75
PV System Installation	Cranes	1	7.00	399	0.43
PV System Installation	Forklifts	2	8.00	145	0.30
PV System Installation	Generator Sets	2	2.00	15	0.50
PV System Installation	Off-Highway Trucks	4	8.00	189	0.50
PV System Installation	Other Construction Equipment	8	6.00	47	0.40
PV System Installation	Rubber Tired Dozers	1	6.00	357	0.59
PV System Installation	Tractors/Loaders/Backhoes	2	7.00	108	0.55
PV System Installation	Trenchers	2	8.00	63	0.75
PV System Installation	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	12	200.00	26.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	10	200.00	26.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
PV System Installation	24	200.00	26.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.7435	0.0000	14.7435	5.5819	0.0000	5.5819			0.0000			0.0000
Off-Road	6.0127	60.5994	47.2101	0.0789		2.8278	2.8278		2.6027	2.6027		7,626.6778	7,626.6778	2.4583		7,688.1353
Total	**6.0127**	**60.5994**	**47.2101**	**0.0789**	**14.7435**	**2.8278**	**17.5713**	**5.5819**	**2.6027**	**8.1846**		**7,626.6778**	**7,626.6778**	**2.4583**		**7,688.1353**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.6098	0.5869	7.3300e-003	0.1595	0.0111	0.1706	0.0459	0.0106	0.0566		764.9946	764.9946	0.0682		766.6984
Worker	1.3286	0.9198	10.7121	0.0259	2.5546	0.0155	2.5701	0.6775	0.0142	0.6917		2,572.7771	2,572.7771	0.0875		2,574.9644
Total	**1.4119**	**3.5297**	**11.2990**	**0.0332**	**2.7141**	**0.0266**	**2.7407**	**0.7234**	**0.0249**	**0.7483**		**3,337.7716**	**3,337.7716**	**0.1556**		**3,341.6628**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.7435	0.0000	14.7435	5.5819	0.0000	5.5819			0.0000			0.0000
Off-Road	6.0127	60.5994	47.2101	0.0789		2.8278	2.8278		2.6027	2.6027	0.0000	7,626.6777	7,626.6777	2.4583		7,688.1353
Total	**6.0127**	**60.5994**	**47.2101**	**0.0789**	**14.7435**	**2.8278**	**17.5713**	**5.5819**	**2.6027**	**8.1846**	**0.0000**	**7,626.6777**	**7,626.6777**	**2.4583**		**7,688.1353**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.6098	0.5869	7.3300e-003	0.1595	0.0111	0.1706	0.0459	0.0106	0.0566		764.9946	764.9946	0.0682		766.6984
Worker	1.3286	0.9198	10.7121	0.0259	2.5546	0.0155	2.5701	0.6775	0.0142	0.6917		2,572.7771	2,572.7771	0.0875		2,574.9644
Total	**1.4119**	**3.5297**	**11.2990**	**0.0332**	**2.7141**	**0.0266**	**2.7407**	**0.7234**	**0.0249**	**0.7483**		**3,337.7716**	**3,337.7716**	**0.1556**		**3,341.6628**

3.3 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4985	32.3106	22.4992	0.0501		1.7396	1.7396		1.6016	1.6016		4,835.1112	4,835.1112	1.5555		4,873.9975
Total	**3.4985**	**32.3106**	**22.4992**	**0.0501**		**1.7396**	**1.7396**		**1.6016**	**1.6016**		**4,835.1112**	**4,835.1112**	**1.5555**		**4,873.9975**

3.3 Trenching - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.6098	0.5869	7.3300e-003	0.1595	0.0111	0.1706	0.0459	0.0106	0.0566		764.9946	764.9946	0.0682		766.6984
Worker	1.3286	0.9198	10.7121	0.0259	2.5546	0.0155	2.5701	0.6775	0.0142	0.6917		2,572.7771	2,572.7771	0.0875		2,574.9644
Total	**1.4119**	**3.5297**	**11.2990**	**0.0332**	**2.7141**	**0.0266**	**2.7407**	**0.7234**	**0.0249**	**0.7483**		**3,337.7716**	**3,337.7716**	**0.1556**		**3,341.6628**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4985	32.3106	22.4992	0.0501		1.7396	1.7396		1.6016	1.6016	0.0000	4,835.1112	4,835.1112	1.5555		4,873.9975
Total	**3.4985**	**32.3106**	**22.4992**	**0.0501**		**1.7396**	**1.7396**		**1.6016**	**1.6016**	**0.0000**	**4,835.1112**	**4,835.1112**	**1.5555**		**4,873.9975**

3.3 Trenching - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.6098	0.5869	7.3300e-003	0.1595	0.0111	0.1706	0.0459	0.0106	0.0566		764.9946	764.9946	0.0682		766.6984
Worker	1.3286	0.9198	10.7121	0.0259	2.5546	0.0155	2.5701	0.6775	0.0142	0.6917		2,572.7771	2,572.7771	0.0875		2,574.9644
Total	**1.4119**	**3.5297**	**11.2990**	**0.0332**	**2.7141**	**0.0266**	**2.7407**	**0.7234**	**0.0249**	**0.7483**		**3,337.7716**	**3,337.7716**	**0.1556**		**3,341.6628**

3.4 PV System Installation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.1738	76.5094	61.1048	0.1002		4.1271	4.1271		3.8119	3.8119		9,612.7206	9,612.7206	3.0278		9,688.4145
Total	**9.1738**	**76.5094**	**61.1048**	**0.1002**		**4.1271**	**4.1271**		**3.8119**	**3.8119**		**9,612.7206**	**9,612.7206**	**3.0278**		**9,688.4145**

3.4 PV System Installation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.6098	0.5869	7.3300e-003	0.1595	0.0111	0.1706	0.0459	0.0106	0.0566		764.9946	764.9946	0.0682		766.6984
Worker	1.3286	0.9198	10.7121	0.0259	2.5546	0.0155	2.5701	0.6775	0.0142	0.6917		2,572.7771	2,572.7771	0.0875		2,574.9644
Total	**1.4119**	**3.5297**	**11.2990**	**0.0332**	**2.7141**	**0.0266**	**2.7407**	**0.7234**	**0.0249**	**0.7483**		**3,337.7716**	**3,337.7716**	**0.1556**		**3,341.6628**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.1738	76.5094	61.1048	0.1002		4.1271	4.1271		3.8119	3.8119	0.0000	9,612.7206	9,612.7206	3.0278		9,688.4145
Total	**9.1738**	**76.5094**	**61.1048**	**0.1002**		**4.1271**	**4.1271**		**3.8119**	**3.8119**	**0.0000**	**9,612.7206**	**9,612.7206**	**3.0278**		**9,688.4145**

3.4 PV System Installation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.6098	0.5869	7.3300e-003	0.1595	0.0111	0.1706	0.0459	0.0106	0.0566		764.9946	764.9946	0.0682		766.6984
Worker	1.3286	0.9198	10.7121	0.0259	2.5546	0.0155	2.5701	0.6775	0.0142	0.6917		2,572.7771	2,572.7771	0.0875		2,574.9644
Total	**1.4119**	**3.5297**	**11.2990**	**0.0332**	**2.7141**	**0.0266**	**2.7407**	**0.7234**	**0.0249**	**0.7483**		**3,337.7716**	**3,337.7716**	**0.1556**		**3,341.6628**

3.4 PV System Installation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.4138	68.8766	58.7810	0.1002		3.6650	3.6650		3.3847	3.3847		9,610.7603	9,610.7603	3.0198		9,686.2542
Total	**8.4138**	**68.8766**	**58.7810**	**0.1002**		**3.6650**	**3.6650**		**3.3847**	**3.3847**		**9,610.7603**	**9,610.7603**	**3.0198**		**9,686.2542**

3.4 PV System Installation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0729	2.3848	0.5095	7.2700e-003	0.1595	3.5300e-003	0.1630	0.0459	3.3800e-003	0.0493		759.1131	759.1131	0.0649		760.7356
Worker	1.2318	0.8198	9.7623	0.0249	2.5546	0.0149	2.5695	0.6775	0.0137	0.6912		2,476.5500	2,476.5500	0.0778		2,478.4947
Total	**1.3047**	**3.2046**	**10.2718**	**0.0322**	**2.7141**	**0.0184**	**2.7325**	**0.7234**	**0.0171**	**0.7405**		**3,235.6631**	**3,235.6631**	**0.1427**		**3,239.2303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.4138	68.8766	58.7810	0.1002		3.6650	3.6650		3.3847	3.3847	0.0000	9,610.7603	9,610.7603	3.0198		9,686.2542
Total	**8.4138**	**68.8766**	**58.7810**	**0.1002**		**3.6650**	**3.6650**		**3.3847**	**3.3847**	**0.0000**	**9,610.7603**	**9,610.7603**	**3.0198**		**9,686.2542**

3.4 PV System Installation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0729	2.3848	0.5095	7.2700e-003	0.1595	3.5300e-003	0.1630	0.0459	3.3800e-003	0.0493		759.1131	759.1131	0.0649		760.7356
Worker	1.2318	0.8198	9.7623	0.0249	2.5546	0.0149	2.5695	0.6775	0.0137	0.6912		2,476.5500	2,476.5500	0.0778		2,478.4947
Total	**1.3047**	**3.2046**	**10.2718**	**0.0322**	**2.7141**	**0.0184**	**2.7325**	**0.7234**	**0.0171**	**0.7405**		**3,235.6631**	**3,235.6631**	**0.1427**		**3,239.2303**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.538252	0.036119	0.174699	0.110250	0.018708	0.005523	0.008817	0.093315	0.001422	0.002225	0.008861	0.000710	0.001098

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5004	0.0492	5.3578	4.0000e-004		0.0192	0.0192		0.0192	0.0192		11.4399	11.4399	0.0304		12.1994
Unmitigated	0.5004	0.0492	5.3578	4.0000e-004		0.0192	0.0192		0.0192	0.0192		11.4399	11.4399	0.0304		12.1994

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.5004	0.0492	5.3578	4.0000e-004		0.0192	0.0192		0.0192	0.0192		11.4399	11.4399	0.0304		12.1994
Total	**0.5004**	**0.0492**	**5.3578**	**4.0000e-004**		**0.0192**	**0.0192**		**0.0192**	**0.0192**		**11.4399**	**11.4399**	**0.0304**		**12.1994**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.5004	0.0492	5.3578	4.0000e-004		0.0192	0.0192		0.0192	0.0192		11.4399	11.4399	0.0304		12.1994
Total	**0.5004**	**0.0492**	**5.3578**	**4.0000e-004**		**0.0192**	**0.0192**		**0.0192**	**0.0192**		**11.4399**	**11.4399**	**0.0304**		**12.1994**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B BIOLOGICAL RESOURCES

B.1 BIOLOGICAL RESOURCES TECHNICAL REPORT



Biological Resources Technical Report for the Baldy Mesa Solar Project, Adelanto, California

JANUARY 2020

PREPARED FOR

sPower Sustainable Power Group

PREPARED BY

SWCA Environmental Consultants

BIOLOGICAL RESOURCES TECHNICAL REPORT FOR THE BALDY MESA SOLAR PROJECT, ADELANTO, CALIFORNIA

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January 2020

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1 INTRODUCTION

This Biological Resources Technical Report was prepared by SWCA Environmental Consultants (SWCA) in support of the Baldy Mesa Solar Project (Project). SWCA was retained by sPower Sustainable Power Group (sPower) to conduct field and desktop studies to provide the technical basis for the assessment of potential impacts to biological resources that may result from implementation of the Project. In addition to a description of the existing conditions, this report also describes how biological resources will be potentially affected by the construction, operation, and maintenance of the Project. It provides the substantial evidence upon which the required evaluation of feasibility, environmental analysis, and findings of fact in relation to biological resources can be made. This report may also be used to support the environmental documentation and evaluation of the Project pursuant to the California Environmental Quality Act (CEQA).

1.1 Project Description

The Project will consist of a utility-scale solar photovoltaic (PV) energy generating facility located on approximately 1,197 acres in the City of Adelanto, in San Bernardino County, California. A generation tie-line (gen-tie) will interconnect with the power grid at the existing Southern California Edison (SCE) Roadway Substation. Electrical power generated by the Project will be delivered by an approximately 4.8-mile generation tie-line (gen-tie). Six gen-tie options have been identified.

1.2 Project Location

The Project is located in the northwestern portion of the City of Adelanto within the Mojave Desert (Figure 1). The main Project area is bounded by El Mirage Road on the south, Colusa Road on the north, extends 0.5 mile west of Richardson Road on the west, and to Raccoon Road on the east. The Project and gen-tie options are located in Sections 11–13 of Township 6 North, Range 6 West, and Sections 6, 7, 17-20, and 28-33 of Township 6 North, Range 5 West (San Bernardino Meridian) found on the U.S. Geological Survey (USGS) Adelanto and Victorville NW 7.5-minute topographic quadrangles (Figure 2). The main Project area, which includes the solar arrays and infrastructure that will be enclosed in fencing, encompasses approximately 1,197 acres (Figures 2-3).

The naming conventions for the gen-tie routes have been updated since early 2019. Gen-tie Option A is now referred to as Gen-tie Option 2, Gen-tie Option B is now referred to as Gen-tie Option 3, and Gen-tie Option C is now referred to as Gen-tie Option 4.

Gen-tie Option 1 begins on Koala Road 0.33 mile south of Coronado Avenue extending 1.13 miles south, 1.5 miles east on Chamberlaine Way, 0.75 mile south on Verbena Road, and 0.79 mile east on Lawson Avenue to the Roadway Substation.

Gen-tie Option 2 begins on Koala Road 0.33 mile south of Coronado Avenue extending 0.5 mile south, 1.5 miles east on El Mirage Road, 1.75 miles south on Verbena Road, and 0.77 mile east on Lawson Avenue where it connects to the Roadway Substation.

Gen-tie Option 3 begins on Koala Road approximately 0.33 miles south of Coronado Avenue. It extends south for approximately 2.25 miles, east along Air Expressway for approximately 2.35 miles, and north along Delicious Street for approximately 0.27 mile where it connects to the Roadway Substation. Gen-tie Option 3 has an alternate route that interconnects at the corner of Koala Road and Bartlett Street where it extends for 0.5 mile east, then 0.5 mile south along Raccoon Avenue before connecting to Air Expressway (see Figure 2).

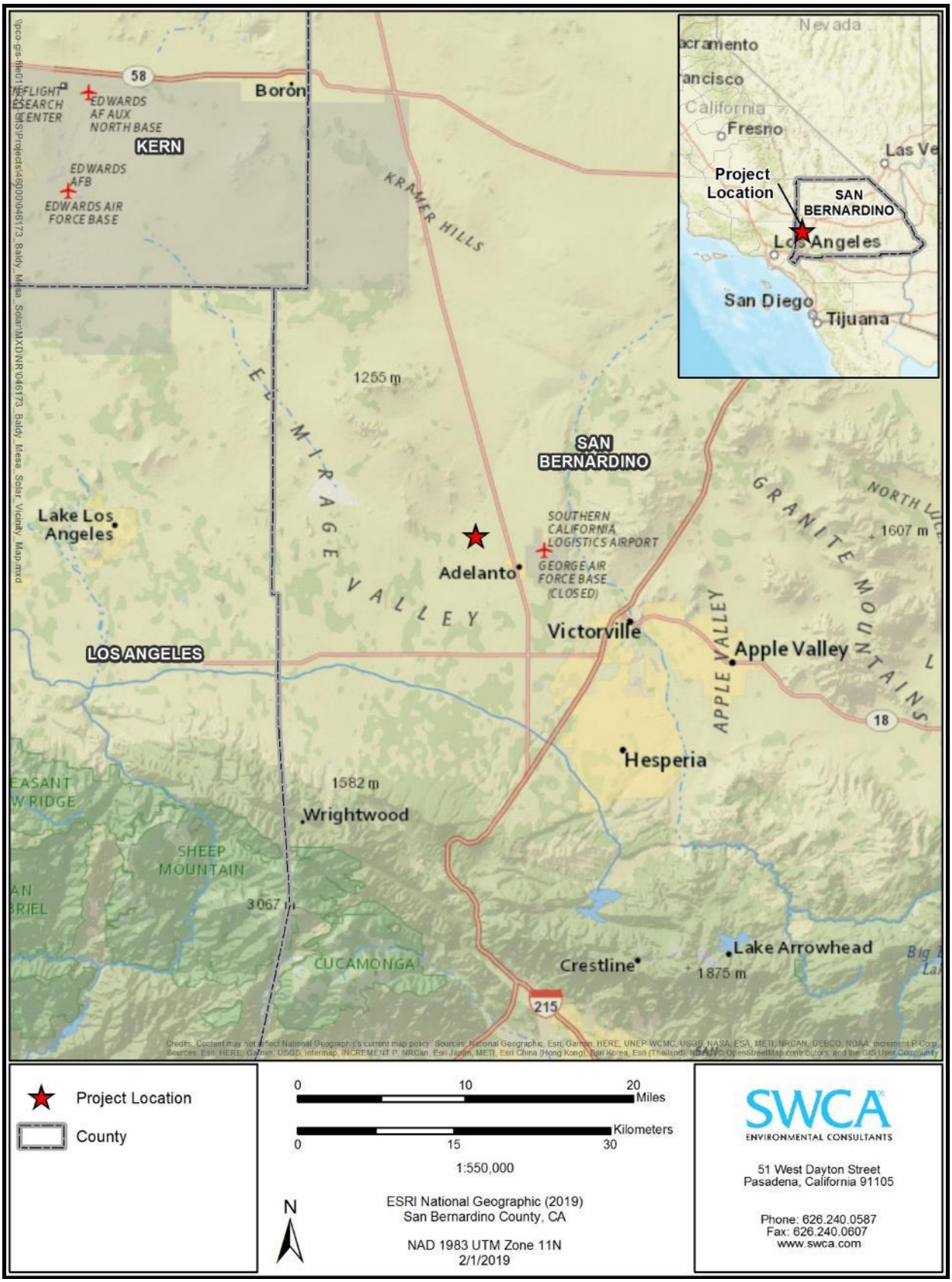

Figure 1. Regional Vicinity Map

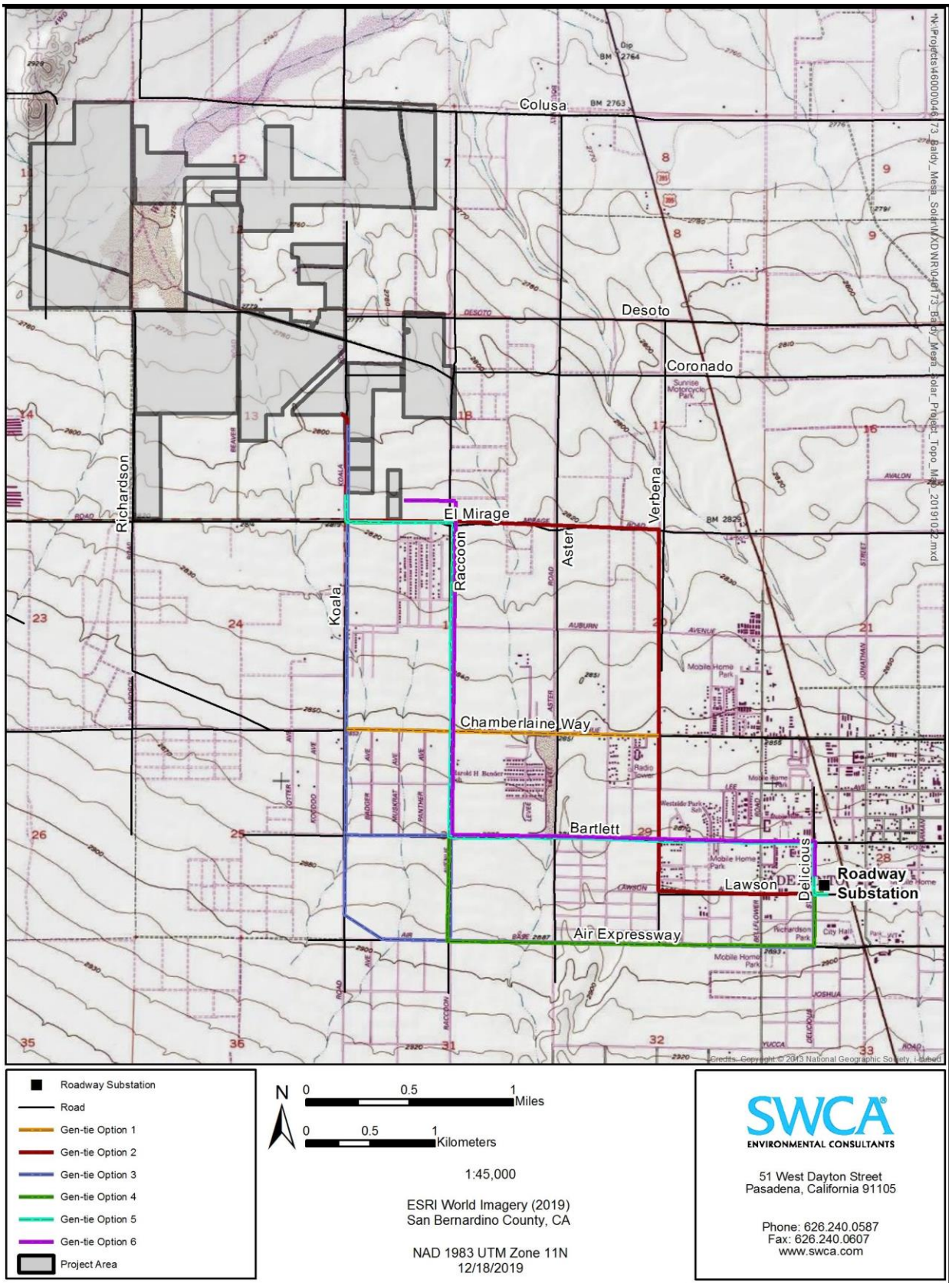

Figure 2. Project Location with USGS Topographic Background

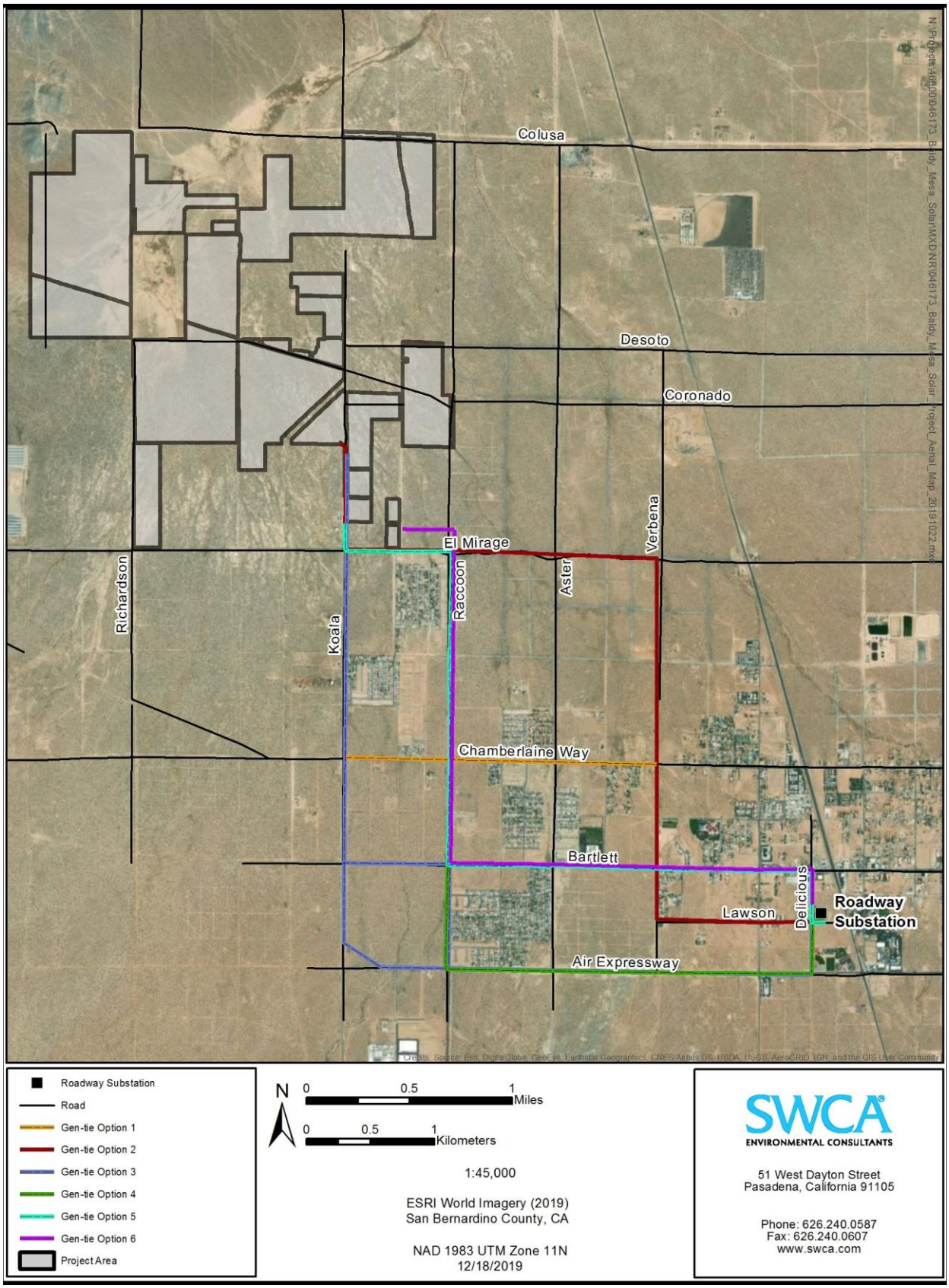

Figure 3. Project Location with Aerial Background.

Gen-tie Option 4 originates along Koala Road like the other gen-tie options. It overlaps with Gen-tie Option 2 for a half-mile along El Mirage Road, and then diverges to turn south along Raccoon Avenue for 2.0 miles, joining with Gen-tie Option 4 for the last half-mile along Raccoon Avenue. Finally it extends 1.75 miles east along Air Expressway, and 0.25 mile north along Delicious Street to the Roadway Substation.

Gen-tie Option 5 begins on Koala Road 0.33 mile south of Coronado Avenue extending 0.1 mile south, 0.5 mile east on El Mirage Road, 1.5 miles south on Raccoon Street, 1.75 miles east on Bartlett Avenue, 0.25 mile south on Delicious Street, and 250 feet east on Lawson Avenue to the Roadway Substation.

Gen-tie Option 6 begins on Muskrat Road 0.1 mile north of El Mirage Road extending 0.25 mile east, it then diverges south along Racoon Avenue for 1.5 mile, extends 1.75 mile east along Bartlett Avenue, and finally extends 0.2 mile south along Delicious Street to the Roadway Substation.

1.3 Site Characteristics

The Project site is relatively flat, with a maximum elevation of approximately 2,826 feet above mean sea level (amsl) at the southwestern corner of the Project at El Mirage Road and a minimum elevation of approximately 2,754 feet amsl at the northeastern corner just north of Colusa Road. The majority of the area immediately surrounding the Project consists of open space, with the Shadow Mountains to the north and U.S Route 395 to the east. The Fremont Wash traverses parts of the northern and western portions of the Project.

Some homes (approximately six) are located near the Project. A residential community is located approximately 125 meters south of the southernmost parcels of the Project. The gen-tie routes are located along existing roads and/or traverse relatively flat open space, often adjacent to the residential communities that are interspersed throughout the area.

1.4 Regional Overview

The Project is located in the northwestern portion of the City of Adelanto and adjacent to unincorporated San Bernardino County within the western Mojave Desert. The region is located between the southern, low elevation, hot Sonoran Desert and the northern, high elevation, relatively cool Great Basin. The western Mojave Desert includes more than 25,000 square miles within California and portions of Arizona, Nevada, and Utah. The Mojave Desert's western boundary is formed by the convergence of the Tehachapi and San Gabriel Mountains, and its southern boundary extends east of the San Bernardino Mountains to the Salton Sea, where it gradually transitions into the Sonoran Desert. Most of the Mojave Desert lies at roughly 3,000 to 6,000 feet amsl, and it is therefore considered a high desert. However, the Mojave Desert encompasses a broad elevation range, including peaks that exceed 11,000 feet amsl and Death Valley, which has the lowest recorded elevation in North America at 282 feet below mean sea level.

Much of the Mojave Desert consists of typical mountain and basin topography where basin-to-mountain transition zones support high levels of biodiversity and endemic species. Flatter portions of the desert floor are characterized by expansive playas, dry lakes and other ephemeral waters. These are interspersed with dunes (a geomorphology referred to as pan and dune complexes) that are covered with Joshua trees (*Yucca brevifolia*), saltbush (*Atriplex* spp.), and Great Basin sagebrush (*Artemisia tridentata*). Fine wind-blown sand from dry lakebeds and river channels can create hummocks and dunes that support unique species of insects, plants, and reptiles. Slopes and bajadas in the region are covered with creosote bush (*Larrea tridentata*), saltbush, bursage (*Ambrosia* spp.), and bladdersage (*Salazaria mexicana*). In years

with sufficient rainfall, the desert floor vegetation communities will include an abundance of annual wildflowers. Most cactus species are found in areas with coarse, sandy soils, and higher elevations support blackbrush (*Coleogyne ramosissima*), Mojave yucca (*Y. schidigera*), and Spanish bayonet (*Y. baccata*).

1.5 Regional Climate and Weather

The Mojave Desert is characterized by hot summer temperatures (average daily highs above 100˚Fahrenheit [F]) and low annual precipitation (approximately 5 inches). Daily temperature ranges of 40°F can occur, with lows in the winter below or near freezing. Precipitation extremes are also common, with variations of 80 percent in annual precipitation and occasional high-volume storm events. Summer thunderstorms can drop more precipitation on a site in one event than the mean yearly precipitation for that location. High winds can occur, with velocities that regularly exceed 50 miles per hour in some areas, and can reach 100 miles per hour on rare occasions (Bureau of Land Management [BLM] 2005).

Deserts in general are defined by low levels of precipitation, and the Mojave's latitude and location east and north of large mountains results in a rain shadow on the desert side of the mountains where precipitation is far less than on the coastal side. During the summer the western edge of the Mojave Desert is heavily influenced by the dry southwest airflows resulting in the typically very dry weather. The influence of the southwest winds diminishes toward the eastern Mojave Desert, and this portion of the Mojave experiences a more continental influence and monsoon weather patterns (BLM 2005).

2 REGULATORY OVERVIEW

This report characterizes the biological resources that would potentially be affected by construction, operation, and maintenance of the Project. On-site natural resources or those with a high probability of occurring in the Project may require mitigation for impacts that could result from Project development. Mitigation requirements are based on a number of federal, state, and local laws, regulations, and policies relating to plants and wildlife, migratory and nesting birds, environmental quality, and lake or streambed alteration. The following discussion reviews these policies and how they pertain to any tasks implemented under the Project.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Endangered Species Act (ESA) in 1973 to protect endangered species and species threatened with extinction (federally listed species). The ESA operates in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Section 9 of the ESA prohibits the "take" of endangered or threatened wildlife species. The legal definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 United States Code [USC] 1532 [19]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 Code of Federal Regulations [CFR] 17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR 17.3). Actions that result in take can result in civil or criminal penalties. "Incidental take" is defined by the ESA as take that is incidental to, and not for the purpose of, carrying out an otherwise lawful activity.

The ESA authorizes the U.S. Fish and Wildlife Service (USFWS) to issue permits under Sections 7 and 10. Section 7 mandates that all federal agencies consult with the USFWS for terrestrial species and/or National Marine Fisheries Service (NMFS) for marine species to ensure that federal agency actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. Any anticipated adverse effects must be assessed to determine potential effects of the Project on listed species and critical habitat. If the Project may adversely affect a listed species or its habitat, the USFWS or NMFS would need to prepare a Biological Opinion (BO) as part of the incidental take permit process. The BO may recommend "reasonable and prudent alternatives" to the Project to avoid jeopardizing or adversely modifying habitat, including "take" limits.

Under Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat. The ESA defines critical habitat as habitat deemed essential to the survival of a federally listed species and the federal government is required to designate "critical habitat" for any species it lists under the ESA regulations. A critical habitat designation does not set up a preserve or refuge, and applies only when federal funding, permits, or projects are involved. Critical habitat requirements do not apply to activities on private land and that do not involve a federal agency.

Non-federal projects may still pursue Section 7 permitting when a federal nexus, such as federal funding or permitting (e.g., through the U.S. Army Corps of Engineers [USACE] under Section 404 of the federal Clean Water Act [CWA]), is available. When no nexus is available, Section 10(a)(1)(B) authorizes

issuance of permits to allow "incidental take" of listed species. To obtain an incidental take permit, an applicant must submit a habitat conservation plan and conduct an assessment on the impacts of the action, outlining steps to minimize and mitigate permitted take impacts to listed species.

2.1.2 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), first enacted in 1918, prohibits any person, unless permitted by regulations, to:

> "…pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention … for the protection of migratory birds ... or any part, nest, or egg of any such bird." (16 USC 703)

The list of migratory birds includes nearly all bird species native to the United States. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all non-native species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under MBTA to directly kill, or destroy a nest of, nearly any native bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA. Removal of unoccupied nests, and bird mortality resulting indirectly from disturbance activities, are not considered violations of the MBTA.

2.1.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668–668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles (*Haliaeetus leucocephalus*), including their parts, nests, or eggs. In 1962, Congress amended the act to cover golden eagles (*Aquila chrysaetos*).

The act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Under USFWS rules (16 USC § 22.3; 72 FR 31,132, June 5, 2007), "disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

2.2 State Regulations

2.2.1 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the "taking" of listed species except as otherwise provided by state law. Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under certain circumstances, the CESA applies these take prohibitions to species petitioned for listing (state candidates). Pursuant to the requirements of the CESA, State lead agencies (as defined under CEQA Public Resources Code [PRC] Section 21067) are required to consult with the CDFW to ensure that any action or project is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. Additionally, the CDFW encourages informal consultation on any proposed project that may impact a candidate species. The CESA requires the CDFW to maintain a list of threatened and endangered species. The CDFW also maintains a list of candidates for listing under the CESA and a list of species of special concern (or watch list species).

2.2.2 Fully Protected Species

The California Department of Fish and Game (CDFG) Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists protected amphibians and reptiles, and Section 3515 prohibits take of fully protected fish species. Eggs and nests of fully protected birds are under Section 3511. Migratory nongame birds are protected under Section 3800, and mammals are protected under Section 4700. Except for take related to scientific research, all take of fully protected species is prohibited.

2.2.3 Nesting Birds and Raptors

Section 3503 of the CDFG Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 provides protection for all birds of prey, including their eggs and nests.

2.2.4 Migratory Bird Protection

Take or possession any migratory non-game bird as designated in the MBTA is prohibited by Section 3513 of the CDFG Code.

2.2.5 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (CDFG Code Section 1900-1913) directed the CDFG (now known as CDFW) to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. The NPPA thus includes measures to preserve, protect, and enhance rare and endangered native plants.

CESA has largely superseded NPPA for all plants designated as endangered by the NPPA. The NPPA nevertheless provides limitations on take of rare and endangered species as follows: "...no person will import into this state, or take, possess, or sell within this State" any rare or endangered native plant, except in compliance with provisions of the CESA. Individual landowners are required to notify the

CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

2.2.6 California Desert Native Plants Act

The California Desert Native Plants Act (CDNPA) protects non-listed California desert native plants from unlawful harvesting on public and private lands in the counties of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego (California Food and Agriculture Code, Sections 80001-80006, Division 23). A number of desert plants are protected under this act, including all species in the agave and cactus families..

2.2.7 California Environmental Quality Act

The California Environmental Quality Act (CEQA) was adopted in 1970 and applies to discretionary actions directly undertaken, financed or permitted by State or local government lead agencies. CEQA requires that a Project's effects on environmental resources must be analyzed and assessed using criteria determined by the lead agency. CEQA defines a rare species in a broader sense than the definitions of threatened, endangered, or California species of concern. Under this definition, the CDFW can request additional consideration of species not otherwise protected.

2.2.7.1 CEQA SIGNIFICANCE CRITERIA

Section 15064.7 of the CEQA guidelines encourages local agencies to develop and publish the thresholds that the agency will use in determining the significance of environmental effects caused by Projects or actions under its review. Appendix G of the CEQA guidelines provides thresholds to evaluate impacts that would normally be considered significant. Based upon these guidelines, impacts to biological resources would normally be considered significant if the Project:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or USFWS;
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites; or
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

An evaluation of whether an impact to biological resources would be significant must consider both the resource itself and how that resource fits into a regional or local context. Significant impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. The

evaluation of impacts considers direct impacts, indirect impacts, cumulative impacts, as well as temporary and permanent impacts.

2.3 Local Regulations

2.3.1 City of Adelanto North 2035 Comprehensive Sustainable Plan

The Adelanto North 2035 Comprehensive Sustainable Plan (Plan) contains the City's goals, objectives, policies and specific actions that provide the framework for achieving the community's long-term vision (City of Adelanto 2014). The Plan was adopted on August 27, 2014 and includes the following elements or plans: land use and community design, economic development, mobility, parks and recreation, open space conservation, public facilities and infrastructure, and public health and safety. The section on open space and conservation, contained within the Plan, specifies goals, policies, and programs related to biological resources. Goals, policies and programs that relate to biological resources at and around, and relevant to the Project, are listed below:

Goal OS 2 Open spaces, sensitive biological resources, native habitat, and vegetation communities that support wildlife species are identified, protected, and restored.

- Policy OS 2.3 Ensure that new development and major transportation projects minimize encroachment into sensitive desert habitats, and minimize direct or indirect impact to sensitive biological resources while optimizing the potential for mitigation.

Implementing Programs

Procedures, Permits, Agreements, and Ordinances

Program OS-21 Biological Assessments. The City will require biological assessments and reports for projects in known or suspected natural habitat areas prior to project approval. These reports will be used to establish significant natural habitat areas and ecologically sensitive zones in order to prevent disturbance and degradation of these areas. Recommended mitigation measures as identified in the reports will be required to be implemented as development occurs.

Program OS-22 Desert Tortoise Protection. For future development projects proposed within desert scrub habitats in the Project Area, informal consultation with the USFWS and CDFW shall be undertaken by the project proponent to determine the need for desert tortoise surveys. The surveys will be performed in accordance with USFWS (2010) protocols.

The project proponent shall retain a qualified biologist with demonstrated expertise with desert tortoise to monitor all construction activities and assist the project proponent in the implementation of the monitoring program. The biologist will be approved by the U.S. Fish and Wildlife Service prior to the commencement of project activities and will be the Authorized Biologist for the project. The Authorized Biologist will be present during all activities immediately adjacent to or within habitat that supports desert tortoise.

Prior to the onset of construction activities, the project proponent shall provide a worker environmental awareness program (WEAP) training regarding desert tortoise for all personnel who will be present on work areas within or adjacent to the Project. The WEAP shall cover the natural history of the species, its legal protection, repercussions for violating the legal protection, protective measures being implemented to protect the species, and guidelines and point of contact if the species is observed on the project site.

If construction occurs within an area where desert tortoise numbers are considered high by USFWS, then work areas will be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The Authorized Biologist will assist in determining the boundaries of the area to be fenced in consultation with the USFWS and CDFW. All workers will be advised that equipment and vehicles must remain within the fenced work areas. Installation of the fencing and any necessary surveys will be directed and/or conducted by the Authorized Biologist in concurrence with the USFWS and CDFW.

If desert tortoises are found within an area that has been fenced to exclude the species, activities will cease until the Authorized Biologist moves the desert tortoises. If desert tortoises are found in a construction area where fencing was deemed unnecessary, work will cease until the Authorized Biologist moves the individual(s). Any desert tortoises found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable undisturbed habitat. The Authorized Biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.

Program OS-23 Swainson's Hawks Protection. To assure that nesting Swainson's hawks are not disturbed by construction activities, a qualified ornithologist shall conduct pre-construction surveys within one mile of the proposed project in regions with suitable nesting habitat for Swainson's hawks. The survey periods and schedule shall follow those described in the CDFW's staff report. Nest trees affected by a proposed project shall not be removed unless avoidance measures are determined to be infeasible. If a nest tree must be removed, a Management Authorization (including conditions to offset the loss of the nest tree) must be obtained from the CDFW. The Management Authorization will specify the tree removal period, generally between the first of October and the first of February. If construction or other project-related activities that may cause nest abandonment or forced fledging are necessary within the specified buffer zone, monitoring of the nest site (funded by the applicant) by a qualified biologist shall be required to determine if the nest is abandoned. If the nest is abandoned, and if the nestlings are still alive, the applicant shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s).

If the site is known foraging habitat for Swainson's hawks, loss of foraging habitat for Swainson's hawks shall be mitigated by providing Habitat Management (HM) land as described in the CDFW's staff report. The final acreage of HM lands to be provided on site shall depend on the distance between the proposed project area and the nearest active nest site, as determined by nest surveys conducted in the spring prior to project implementation. The acreage of HM lands provided shall be derived from the recommendations included in the 2010 CDFW staff report.

Program OS-24 Burrowing Owl Protection. In conformance with Federal and State regulations regarding the protection of burrowing owls, a preconstruction survey for burrowing owls, in conformance with CDFW guidelines, shall be completed no more than 30 days prior to the start of construction within suitable habitat at the project site(s) and buffer zone(s). Three additional protocol level surveys shall also be completed per CDFW guidelines prior to construction. Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through noninvasive methods that either 1) the birds have not begun egg-layering and incubation or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFW authorizing the eviction. A 250-foot buffer, within which no new activity will be permissible, shall be maintained between project activities and nesting burrowing owls during the nesting season. This protected area shall remain in effect until August 31, or at the CDFW's discretion and based upon monitoring evidence, until the young owls are foraging independently.

If surveys determine that burrowing owls occupy the site and avoiding development of occupied areas is not feasible, then habitat compensation on off-site mitigation lands shall be implemented. Habitat Management lands comprising existing burrowing owl foraging and breeding habitat shall be acquired and preserved. An area of 6.5 acres (the amount of land found to be necessary to sustain a pair or individual owl) shall be secured for each pair of owls, or individual in the case of an odd number of birds. As part of an agreement with CDFW, the project proponent shall secure the performance of its mitigation duties by providing CDFW with security in the form of funds that would: 1) allow for the acquisition and/or preservation of 6.5 acres of habitat management lands per pair of owls. 2) provide initial protection and enhancement activities on the habitat management lands, potentially including, but not limited to, such measures as fencing, trash clean-up, artificial burrow creation, grazing or mowing, and any habitat restoration deemed necessary by CDFW, and 3) establish an endowment for the long-term management of the habitat management lands.

Program OS-25 Habitat Suitability. Future project applicants shall have a qualified biologist ascertain the suitability of the project site to support burrowing owl, ferruginous hawk, California horned lark, loggerhead shrike, Le Conte's thrasher and pallid San Diego pocket mouse if the proposed project site is located in an area suitable for these faunae. If the biologist determines that the habitats are unsuitable, then no further mitigation is necessary. If one or more of these species is observed, known to occupy the site, or suitable habitat is present, avoidance and minimization measures shall be developed and implemented by the project proponent.

Program OS-26 Nest Surveys. If construction or vegetation removal activities must occur during the bird breeding season (February through mid-September) in areas identified as habitat for burrowing owl, ferruginous hawk, California horned lark, loggerhead shrike, and the Conte's thrasher, surveys for active nests shall be conducted by a qualified biologist no more than 30 days prior to the start of construction. A minimum no-disturbance buffer of 250 feet shall be established around active nests and demarcated with fencing or flagging. No project-related activities shall occur within the buffer zone until a qualified biologist has determined that the birds have fledged and are no long reliant on the nest or parental care for survival. The buffer distance may be reduced, depending on the sensitivity of the species and nest location, in consultation with the CDFW.

Program OS-27 Special-Status Plant Species Surveys. Future project sites located in areas where suitable habitat occurs, the applicant will have a qualified biologist conduct floristic surveys of the project site for the thirteen special-status plant species that have potential to occur in the Project. The surveys will be conducted according to CDFW protocols and shall occur throughout the blooming season for each species. If any of the species are found to occur in the proposed impact area, a report shall be prepared in accordance with the California Native Plant Society (CNPS) Botanical Survey Guidelines and submitted to the CDFW prior to commencement of maintenance activities. The report shall recommend measures to avoid significant impacts to populations of the species and offer mitigation to reduce any impacts to less than significant levels. Depending on the abundance of individuals within the proposed impact area, mitigation measures could include a salvage program, which would involve the transplantation and propagation of the species, or acquiring/preserving land with similar population structure.

3 METHODS

Information on the Project area's existing conditions was compiled from existing literature and available data on biological resources in the vicinity, and a reconnaissance-level field survey was conducted to assess potential habitat value for special status species and assess on-site conditions. Additional focused assessments and surveys for rare plants, desert tortoise, and Mohave ground squirrel are described in separate reports.

3.1 Database and Literature Reviews

Species occurrences from the CDFW California Natural Diversity Database (CNDDB) RareFind 5 and the CNPS Online Inventory of Rare and Endangered Plants were queried for data relevant to the Project, to determine which special status plant and wildlife species required analysis within the Project area (CDFW 2019, CNPS 2019). The data search centered on the USGS 7.5-minute Adelanto and Victorville NW quadrangles, which encompasses the Project and gen-tie routes. In addition to the Adelanto and Victorville NW quadrangles, the query included the Victorville, Shadow Mountains, Shadow Mountains SE, Helendale, Phelan, Baldy Mesa, Hesperia, Red Buttes, Astley Rancho, and Wild Crossing quadrangles.

- *Special Animals Including California Species of Special Concern* (CDFW 2018a)
- *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2018b).
- eBird's web-based bird database (eBird 2019).
- California Herps - A Guide to the Amphibians and Reptiles of California web-based database (Nafis 2019).

3.2 Field Surveys

3.2.1 Main Project Area and Gen-tie Options 2 and 3

A reconnaissance level survey for the main Project area and Gen-tie Options 2 and 3 (previously called Options A and B) was conducted on January 22, 23, and 24, 2019 by SWCA biologists Par Singhaseni and Ryan Myers. The purpose of the survey was to document the biological diversity and the integrity of natural resources. Special attention was focused on determining the possibility that species designated as rare, or which are afforded special legislative protection, occur in the Project area.

The surveys were conducted between 8:00 a.m. and 3:45 p.m. Conditions were sunny and cool, with temperatures that ranged between 36 and 60 °F and wind speed ranging from 0 to 14 miles per hour. The Project site was accessible by vehicle and surveyed on foot. Wildlife observations were made directly and aided by the use of binoculars or through sign including tracks, scat, and remains.

Prior to the site visit, desktop research was conducted to help guide the biologists in their field survey. During the site visit, all observed flora and fauna were noted. Taxonomic conventions for flora followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et. al. 2012). Naming conventions for fauna followed those listed in CNDDB, *The Birds of North America* (Cornell 2019), and the *Peterson Field Guide to Western Reptiles & Amphibians* (Stebbins 2018).

3.2.1.1 VEGETATION AND HABITAT MAPPING

Vegetation and habitat mapping were conducted through desktop research prior to the site visit and field verification during the site survey. Vegetation communities were classified using *A Manual of California Vegetation* (Sawyer et al. 2009). The vegetation community map of the main project area and Gen-tie routes was refined during a focused botanical survey that was conducted in April and May 2019. Mr. Myers and Luis Aguilar, both of whom are botanical specialists, conducted a pedestrian survey of the Project site on April 15-18 and May 2-3, 2019, during which they updated the vegetation communities.

3.2.1.2 ASSESSMENT OF SPECIAL STATUS SPECIES POTENTIAL FOR OCCURRENCE

Special status species evaluated in this study include plants and animals in one or more of the following categories:

- Species listed or proposed for listing as threatened or endangered under the federal ESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (67 *Federal Register* 40657, June 13, 2002).
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations [CCR] 670.5).
- Species that meet the definitions of rare or endangered under the CEQA (State CEQA Guidelines Section 15380).
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game FG Code Section 1900 et seq.).
- Plants considered by the CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2 in CNPS 2001).
- Animal species of special concern as listed by the CDFW (2018a).
- Animals fully protected in California (CDFG Code Sections 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).
- Invertebrates listed on the California Special Animals List.

Potential for occurrence of special status species within the Project site and the immediate vicinity was assessed following the database searches and field survey based on on-site habitat conditions. During the assessment, each species was assigned to one of the categories listed below:

Present: Species is known to occur within the Project site, based on recent (within 20 years) CNDDB or other records, and there is suitable habitat present within the Project site, or the species was observed within the Project site during the field survey. The presence of bird species was distinguished further into those that 1) nest on the Project site, 2) forage on the Project site, and/or 3) occur on the Project site only as transients during migratory flights or other dispersal events.

High Potential: Species is known to occur in the vicinity of the Project site (based on recent [within 20 years] CNDDB or other records or based on professional expertise specific to the area or species), and there is suitable habitat within the Project site that makes the probability of the species occurring there high. Alternatively, there is suitable habitat within the Project site and within the known range of the

species. Bird species in this category were differentiated based on their occurrence in the Project site as breeding, foraging only, and/or transients.

Moderate Potential: Species is known to occur at the Project site (based on non-historic [within 40 years] CNDDB or other records or based on professional expertise specific to the area or species), and there is moderate quality habitat at the Project site that makes the probability of the species occurring there moderate. Alternatively, there is moderate quality habitat in the part of the Project area that falls within the known range of the species.

Low Potential: Species is known to occur in the vicinity of the Project site (within the area comprised by the surrounding USGS quadrangles); however, there is only poor quality or marginal habitat within the Project site and the probability of the species occurring is low.

Absent: There is no suitable habitat for the species within the Project site, or the area is located outside the known range of the species. Alternatively, a species was surveyed for during the appropriate season with unequivocal negative results for species occurrence.

3.2.2 Gen-tie Option 4

Gen-tie Option 4 (previously called Option C) was identified after SWCA's initial desktop assessment and field surveys, and surveyed separately. The initial desktop review conducted for Gen-tie Options 2 and 3 also covered portions of Gen-tie Option 4, which runs between and along Gen-tie Options 2 and 3. A field survey of Gen-tie Option 4, including habitat assessment and vegetation mapping was conducted on June 24, 2019 by Mr. Myers and Ms. Singhaseni. The detailed methods and results of that survey are described in a separate memorandum report (SWCA 2019a); the vegetation mapping results are also included here.

3.2.3 Gen-tie Options 1 and 5

Gen-tie Options 1 and 5 were identified after the initial desktop assessment and subsequent field surveys. Portions of Gen-tie Option 1 overlaps with previously surveyed portions of Gen-tie Options 2 and 3 located along Koala Road and Verbena Avenue. A portion of Gen-tie Option 5 overlaps with previously surveyed portions of Gen-tie Options 2 and 4, located along El Mirage Road and Raccoon Avenue. A field survey of Gen-tie Options 1 and 5 was conducted on October 15, 2019 by Mr. Myers and Ms. Singhaseni. The survey also included a habitat assessment and vegetation mapping. The results of this survey have been incorporated into this report.

3.2.4 Gen-tie Option 6

Gen-tie Option 6 was identified in December 2019 after the initial desktop assessment and subsequent field surveys. Portions of Gen-tie Option 6 overlap with previously surveyed sections of Gen-tie Options 2, 4, and 5. These stretches of road include portions of El Mirage Road, Racoon Avenue, Bartlett Avenue and Delicious Street. A field survey of the Gen-tie Option 6 section between Muskrat Avenue and Racoon Avenue was conducted on December 16, 2019 by Mr. Myers and Ms. Singhaseni. The survey also included a habitat assessment and vegetation mapping. The results of this survey have been incorporated into this report.

3.2.5 Rare Plant Survey

SWCA botanists Luis Aguilar and Ryan Myers conducted the rare plant survey consistent with CDFW and CNPS guidelines on April 15 through April 18, 2019, and on May 2 and 3, 2019. In addition, vegetation communities initially identified during the January 2019 survey were updated and refined using the *Manual of California Vegetation* (Sawyer et al. 2009). Prior to the field survey, a desktop review of all potential rare plants was conducted and likelihood of occurrence was established. The CNDDB RAREFIND 5 query determined that a Beaver Dam breadroot record (EONDX 84359) overlapped with a portion of the project site (CDFW 2019). No records of any other sensitive plant species were documented in the project area.

A pedestrian intuitive controlled survey was conducted on the project site with a focus on areas determined to have the highest potential for rare plant species based on specific habitat requirements including: Joshua Tree Woodlands, gravelly banks of desert washes, ephemeral drainages, and Mojave-Sonoran Desert Dunes. Habitat suitability was determined using the CNDDB habitat descriptions of all the species with a potential to occur.

The entirety of the Project area was surveyed with varying degrees of intensity. Areas with a high potential for rare plants (approximately 25% of the study area) were surveyed completely: 100% visual coverage was achieved by walking transects spaced 10 m apart in these areas. Areas lacking a high potential included: areas with high disturbance, low plant diversity, and/or high non-native plant cover; and vegetation communities which did not match the habitat descriptions for any of the rare plants listed in Table 1. These areas were traversed along transects determined to be representative of these areas by the botanists. Areas without high potential for rare plants received approximately 20% visual coverage during the survey. The gen-tie routes were not surveyed given that rare plants would be highly unlikely to occur due to the high levels of disturbance.

Plant species or subspecies were identified to the highest taxonomic level possible when encountered. Plants that could not be identified in the field were collected and later identified using *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin 2012). Rare plants encountered were recorded using a global positioning system (GPS) unit with submeter accuracy. The results of the survey and updated vegetation communities have been incorporated into this report. The detailed methods and results of that survey are also described in a separate memorandum report (SWCA 2019b).

3.2.6 Desert Tortoise Survey

SWCA biologists Justin Fowler, Marshall Webb, Par Singhaseni, Carlos Jauregui, Ryan Myers, and Cristy Rice conducted the desert tortoise (*Gopherus agazissii*) survey in teams of three or four during a three-week period from April 8 through 25. The survey was conducted in accordance with the 2017 USFWS survey protocol (USFWS 2017). In addition to desert tortoise, the surveyors also documented observations and signs of other special status species and bird nests.

The biologists walked 10-meter-wide belt transects throughout the entire project site and along proposed Gen-tie Options 2 and 3. In addition, transects were walked outside the western perimeter, near where the majority of tortoise sign had been found and anthropogenic impacts were negligible. Vehicle surveys were used if the habitat was considered unsuitable for desert tortoise; unsuitable areas included areas previously graded and devoid of vegetation adjacent to paved roadways, areas that were heavily disturbed by other means, and residential properties.

During the survey, biologists searched for live tortoises and signs of tortoise presence. Signs include scat, carcasses, burrows, drinking depressions, courtship rings, tracks, herbivory, or eggshell fragments. When tortoise sign was found, the biologists determined the approximate age based on the condition of the sign.

Tortoise burrows were identified by the distinctive half-moon shape of the entrance and the walls of the tunnel. When a potential tortoise burrow was encountered, a mirror or bright flashlight was used to view the interior of the burrow. Each burrow was assigned a condition class as described in the USFWS *Desert Tortoise (Mojave Population) Field Manual* (USFWS 2009). The condition classifications are as follows:

- Class 1: currently active, with desert tortoise or recent desert tortoise sign
- Class 2: good condition, definitely desert tortoise; no evidence of recent use
- Class 3: deteriorated condition which includes collapsed burrows; definitely desert tortoise
- Class 4: good condition; possibly desert tortoise
- Class 5: deteriorated condition which includes collapsed burrows; possibly desert tortoise

In addition to burrows excavated by desert tortoise, tortoises are also known to seek shelter under shrubs, within caliche caves, and within burrows excavated by other species. Such burrows may be excavated by burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis arsipus*), coyote (*Canis latrans*), or American badger (*Taxidea taxus*). Each non-tortoise burrow or den was classified based on the shape of the entrance, size, and presence of sign, such as scat, claw mark scrapes, owl pellets, whitewash, or prey remains. The biologists also recorded the occupancy status of each burrow or den. The presence of extensive spiderwebs, debris, or partial collapse was taken to indicate that the burrow/den was likely unoccupied. All burrow and den locations were recorded using a global positioning system (GPS) unit. The results of the survey have been incorporated into this report. The detailed methods and results of that survey are described in a separate report (SWCA 2019c).

3.2.7 Mohave Ground Squirrel Habitat Assessment

The Mohave ground squirrel (*Xerospermophilus mohavensis*) habitat assessment was conducted by ENVIRA biologist Philippe Vergne who holds CDFW Scientific Collection Permit # 4835 and a current Mohave ground squirrel MOU. Walking surveys were conducted on April 4 – 6 and 8 – 10, 2019. Wildlife observations were made directly and aided by the use of binoculars, a spotting scope, or through sign including tracks, scat, and remains.

Field survey methods were derived from generally accepted professional standards including the 2010 California Department of Fish and Game Mohave Ground Squirrel Survey Guidelines (CDFG 2010); and performed under the auspices of a Memorandum of Understanding (MOU) with the CDFW. Accordingly, a methodical pedestrian survey of the study area was conducted to visually evaluate and characterize the suitable habitat on site. The results of the survey have been incorporated into this this report and are detailed in a separate report (ENVIRA 2019).

4 RESULTS

The following section describes the results of the reconnaissance-level survey, additional gen-tie option surveys, rare plant survey, desert tortoise survey, and Mohave ground squirrel habitat assessment. The detailed methods, results, and species observed can be found in each respective memorandum (SWCA 2019a, 2019b, 2019c).

4.1 Site Conditions

The habitat types within the Project area are best described as a mixture of Mojavean desert scrub and chenopod scrub interspersed with Joshua Tree Woodlands. A small area of dune lands is present in the western part of the Project site. Desert plant communities in the vicinity of the Project area have been subject to a variety of land use changes including grazing, housing, and electrical transmission lines. Several unpaved roads traverse the Project site which may have been created by unauthorized users. Trash dumps were present, mostly along the road edges and washes. Tire tracks and other indications of extensive off-road vehicle traffic are present throughout the Project area, along with signs of dogs (*Canis lupus familiaris*).

Several loose dogs were observed at the private residence located centrally between Project parcels north of De Soto Avenue (Figure 3) and along the gen-tie options. Free-roaming dogs are known to injure and kill native wildlife such as kit fox (*Vulpes macrotis*), and can reduce densities of birds and small mammals (e.g Lenth et al. 2008; Banks and Bryant 2007, Woodroffe 1999; reviewed by Young et al. 2011).

The entirety of the project has suitable habitat for nesting birds. Bird nests were documented during the April 2019 desert tortoise survey since the timing of the survey coincided with the nesting season. Eleven bird nests were found during the survey, seven of which were active (Figure 4). Of the active nests, six were common raven (*Corvus corax*) nests and one was a red-tailed hawk (*Buteo jamaicensis*) nest. All of the ravens on nests appeared to be incubating eggs or brooding young at the time of the survey. The red-tailed hawk nest was located in a Joshua tree just beyond the southern boundary of the Project. The nest contained at least two chicks, which were estimated to be approximately 1–2 weeks old. Both adults were present and were observed soaring above the nest during the survey.

4.2 Vegetation Communities

Vegetation in the Project area and along the gen-tie options consists of intermittent native shrubs interspersed with Joshua trees. Ten vegetation communities were identified on-site using *A Manual of California Vegetation* (Sawyer et al. 2009): White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance), Fourwing Saltbush Scrub (*Atriplex canescens* Shrubland Alliance), Allscale Scrub (*Atriplex polycarpa* Shrubland Alliance), Mojave-Sonoran Desert Dunes (*Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance), Nevada Joint Fir Scrub (*Ephedra nevadensis* Shrubland Alliance), Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance), Creosote Bush-White Bursage Scrub (*Larrea tridentata-Ambrosia dumosa* Shrubland Alliance), Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance), Rubber Rabbitbrush Scrub (*Ericameria nauseosa* Shrubland Alliance), and Red Brome or Mediterranean Grass Grasslands (*Bromus rubens - Schismus* [*arabicus, barbatus*] Herbaceous Semi-Natural Alliance) (Table 1, Figures 5-7). Vegetation communities that were highly impacted by anthropogenic factors such as on- or off-road vehicle traffic, trash dumping, or residences were differentiated and mapped separately from areas in a more natural state. Most of these disturbed areas are located adjacent to roadways within the Project and along the gen-tie options.

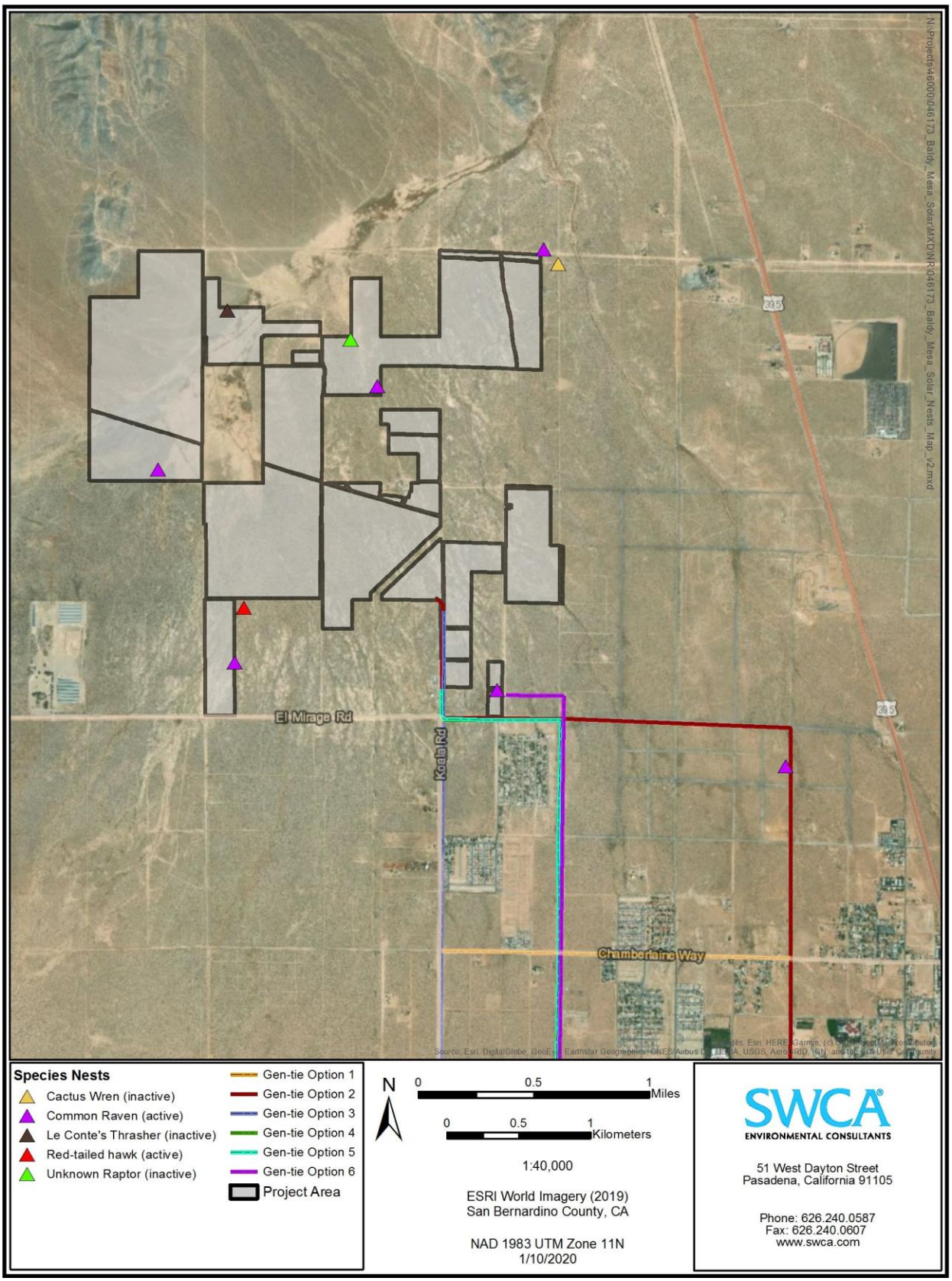

Figure 4. Locations of bird nests recorded during the desert tortoise survey.

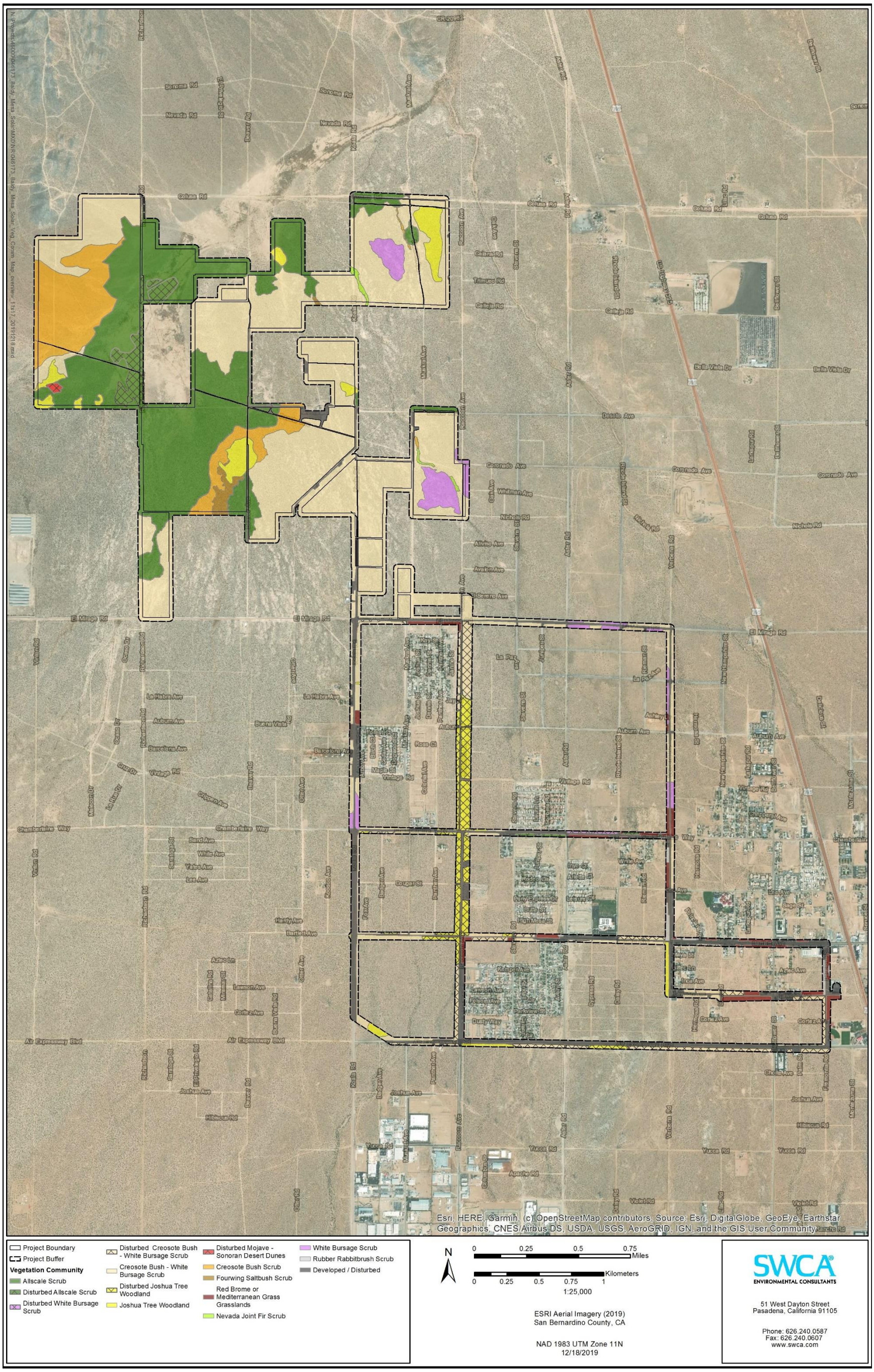

Figure 5. Vegetation Communities and Land Cover Overview

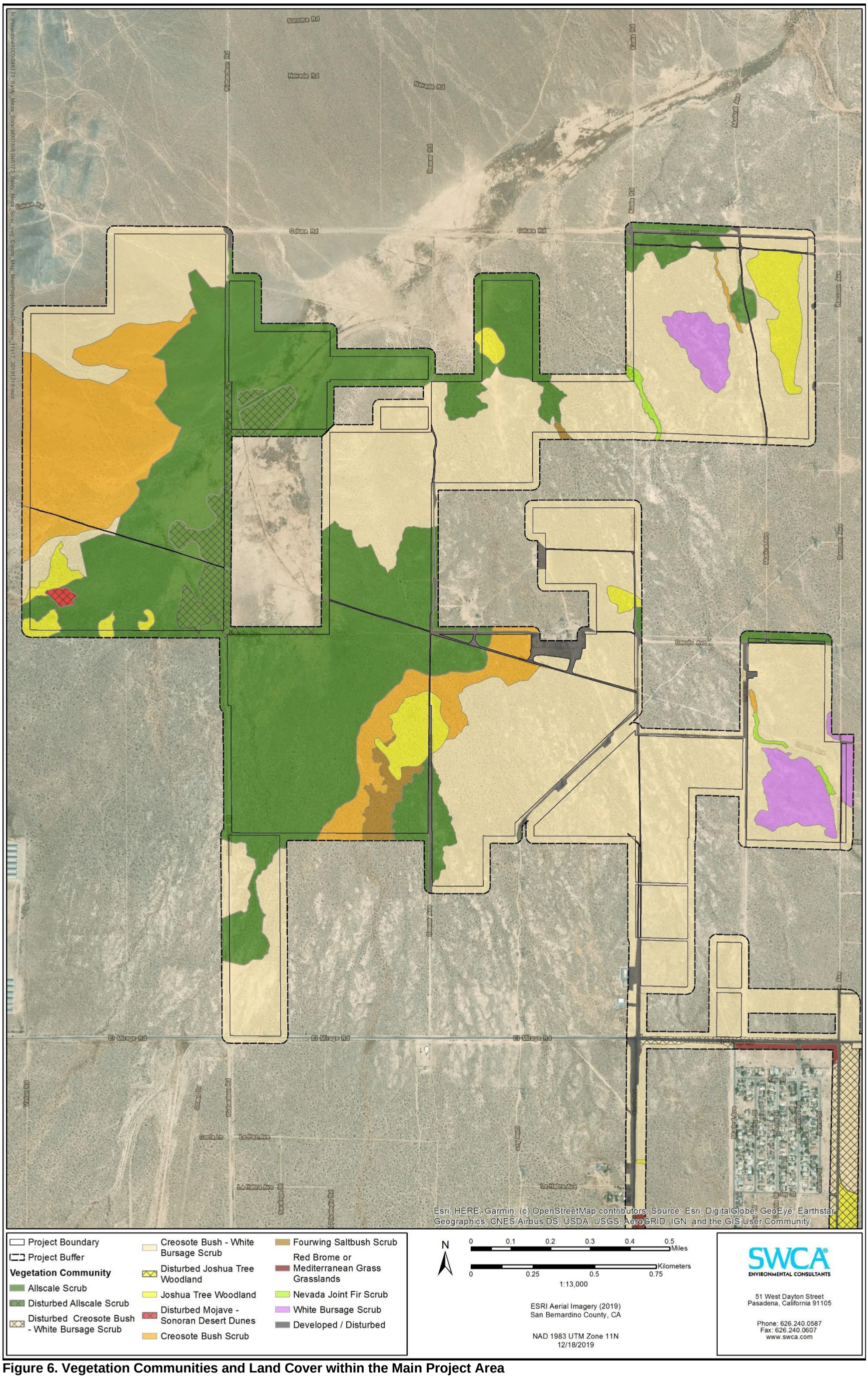

Figure 6. Vegetation Communities and Land Cover within the Main Project Area

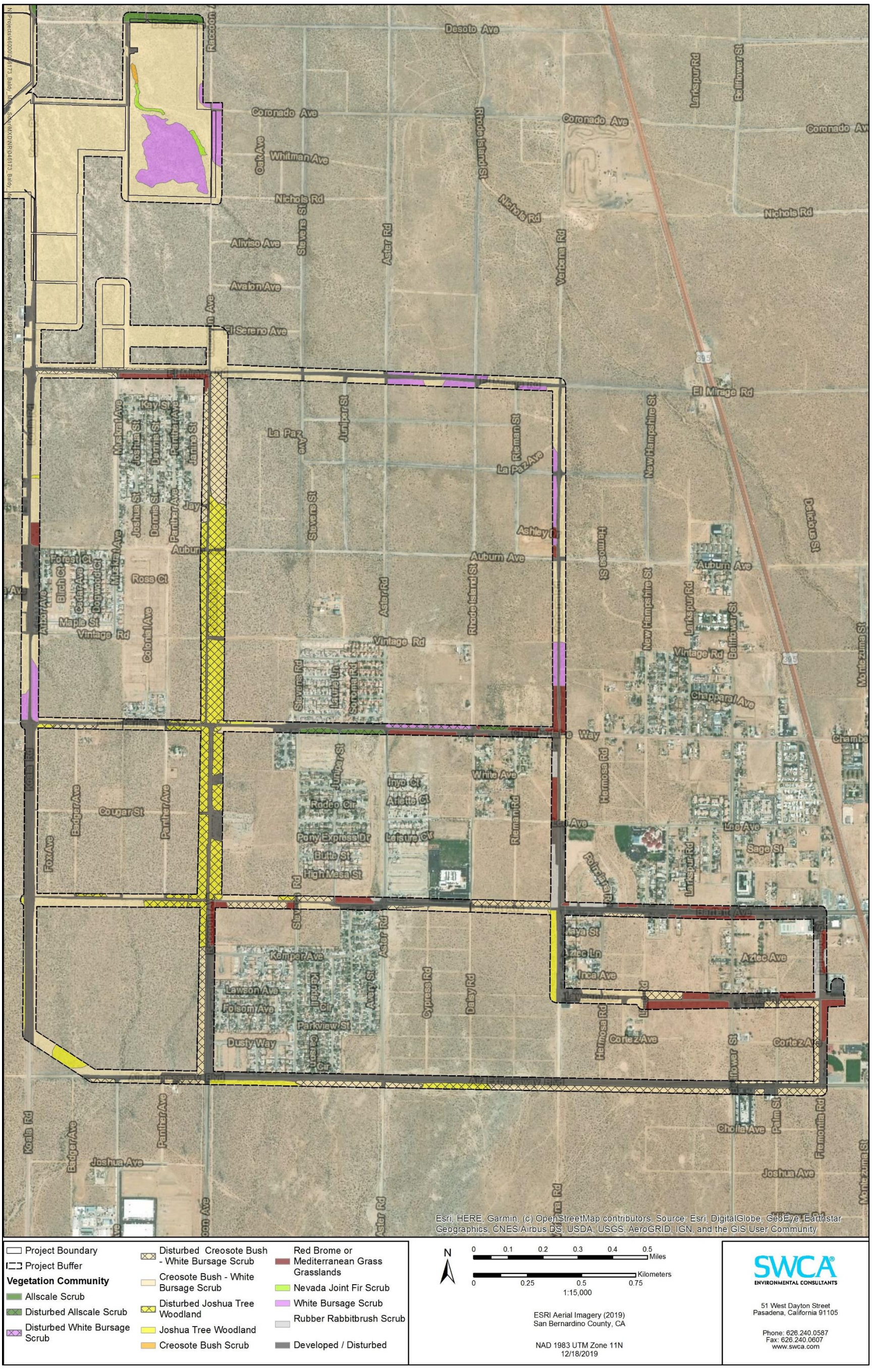

Figure 7. Vegetation Communities and Land Cover along the Gen-tie Route Options

Table 1. Vegetation Communities and Land Cover Types

Vegetation Community	Global Rank*	State Rank†	Acres within the Project Site‡
White Bursage Scrub *Ambrosia dumosa* Shrubland Alliance	G5	S5	32.2
Fourwing Saltbush Scrub *Atriplex canescens* Shrubland Alliance	G5	S4	8.9
Allscale Scrub *Atriplex polycarpa* Shrubland Alliance	G4	S4	404.2
Mojave-Sonoran Desert Dunes *Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance	G4	S3.2	1.6
Nevada Joint Fir Scrub *Ephedra nevadensis* Shrubland Alliance	G5	S4	3.2
Creosote Bush Scrub *Larrea tridentata* Shrubland Alliance	G5	S5	127.9
Creosote Bush-White Bursage Scrub *Larrea tridentata-Ambrosia dumosa* Shrubland Alliance	G5	S5	562.5
Joshua Tree Woodland *Yucca brevifolia* Woodland Alliance	G4	S3.2	44.1
Rubber Rabbitbrush Scrub *Ericameria nauseosa* Shrubland Alliance	G5	S5	N/A (found only along the gen-tie route options)
Red Brome or Mediterranean Grass Grasslands *Bromus rubens - Schismus* (*arabicus, barbatus*) Herbaceous Semi-Natural Alliance	N/A	N/A	N/A (found only along the gen-tie route options)
Developed/Disturbed	N/A	N/A	11.6

*Global Rank:
G4 = Over 100 viable occurrences worldwide/statewide, and/or more than 32,000 acres
G5 = Demonstrably secure because of its worldwide/statewide abundance
†State Rank:
S3 = 21–100 viable occurrences worldwide/statewide, and/or more than 6,400–32,000 acres
S4 = Over 100 viable occurrences worldwide/statewide, and/or more than 32,000 acres
S5 = Demonstrably secure because of its worldwide/statewide abundance
Additional State Threat Rank:
0.2 = Threatened
‡ Acres within the main project area, excludes the gen-tie routes. Disturbed and undisturbed vegetation alliances were mapped separately as shown in Figures 4-6; acres here include both.

The habitats transition from saltbush scrub with sandy and alkaline soils in and around the Fremont Wash to upland communities with cobble-dominated soils in the southeastern part of the Project site (see Figures 5–7). Acres of the coverage for each vegetation community reflect the main project site. Vegetation was mapped within 100 feet of each gen-tie route option, but the gen-tie routes were not included in the acreage calculations due to the uncertainty of the impacts.

Many ephemeral washes flow through the Project site and are generally dominated by saltbush and Nevada joint fir (*Ephedra nevadensis*). Due to the timing and nature of the survey, vegetation communities were identified to the extent feasible, and some communities dominated by herbaceous species may be present which were not identifiable during the winter season. The vegetation communities were refined as a result of focused surveys conducted in April and May 2019, Gen-tie Option 4 was mapped in June 2019, and unsurveyed portions of Gen-tie Options 1 and 5 were mapped in October 2019.

4.2.1 White Bursage Scrub (Ambrosia dumosa Shrubland Alliance)

White Bursage Scrub is characterized by an open to intermittent canopy with an open to intermittent herbaceous layer mixed with seasonal annuals. The alliance is typically found in older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized, and stabilized sand fields, and upland slopes. The soils may be sandy, clay-rich, or calcareous and may have pavement surfaces. White bursage (*Ambrosia dumosa*) is dominant or co-dominant in the shrub canopy with rayless goldenhead (*Acamptopappus sphaerocephalus*), fourwing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), blackbrush (*Coleogyne ramosissima*), cholla (*Cylindropuntia* spp.), brittlebush (*Encelia farinosa*), big galleta (*Hilaria rigida*) and creosote bush. White Bursage Scrub was occasionally found in alluvial fans associated with the Fremont Wash and its drainage basin. Approximately 32.2 acres of the Project site have been classified as White Bursage Scrub.

4.2.2 Fourwing Saltbush Scrub (Atriplex canescens Shrubland Alliance)

Fourwing Saltbush Scrub is characterized by an open or intermittent canopy with variable layer of seasonal herbs and non-native grasses. The alliance is typically found on playas, old beaches and shores, lake deposits, dissected alluvial fans, and rolling hills. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. Fourwing saltbush is dominant or co-dominant in the shrub canopy with white bursage, cheesebush (*Ambrosia salsola*), shadscale, allscale (*Atriplex polycarpa*), spiny hopsage (*Grayia spinosa*), creosote bush, and bladderpod (*Peritoma arborea*). Fourwing Saltbush Scrub was found occasionally in the Fremont Wash drainage basin. The habitat around a major ephemeral wash found in the northeast portion of the Project area was best defined as this alliance. Approximately 8.9 acres of the Project site have been classified as Fourwing Saltbush Scrub

4.2.3 Allscale Scrub (Atriplex polycarpa Shrubland alliance)

Allscale Scrub is characterized by an open to continuous canopy with a variable herbaceous layer including seasonal annuals and nonnative grasses. The alliance is typically found in washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces and edges or large low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. Allscale is dominant in the shrub canopy with white bursage, cheesebush, fourwing saltbush, red brome (*Bromus madritensis* ssp. *rubens*), small seeded spurge (*Euphorbia polycarpa*), creosote bush and bladderpod. Allscale Scrub is the dominant salt bush community found in the Project area and characterized the Fremont Wash and its drainage basin. Many ephemeral washes found in the Project area were best defined as this alliance. Disturbed Allscale Scrub characterized some areas of the northwest portion of the project area with extensive off-road vehicle activity, trash dumping and sparse vegetation cover. Approximately 404.2 acres of the Project site have been classified as Allscale Scrub.

4.2.4 Mojave-Sonoran Desert Dunes (Dicoria cansecens – Abronia villosa – Panicum urvilleanum Sparsely Vegetated Alliance)

Mojave-Sonoran Desert Dunes is best characterized by the presence of stabilized sand sheets and sand dunes. Species composition varies across the scattered dune areas within the Mojave and Sonoran Deserts. The alliance is characterized by a sparse to intermittent layer of seasonal annuals and scattered perennials. Soils are fine to moderately coarse sand. Characteristic herbaceous plants include desert sand verbena (*Abronia villosa*), browneyes (*Chylismia claviformis*), cryptantha (*Cryptantha* spp.), desert dicoria (*Dicoria canescens*), Russian thistle (*Salsola tragus*), sand rice grass (*Stipa hymenoides*), and Mediterranean grass (*Schismus barbata*). Emergent shrubs present at low cover include white bursage,

allscale and creosote bush. Mojave-Sonoran Desert Dunes was found only in the southwest portion of the Project area and was characterized as disturbed due to the prevalence of Russian thistle and other non-native forbs and grasses. Approximately 1.6 acres of the Project site have been classified as Mojave-Sonoran Desert Dunes.

4.2.5 *Nevada Joint Fir Scrub (*Ephedra nevadensis *Shrubland Alliance)*

Nevada Joint Fir Scrub is characterized by an open to intermittent canopy with an herbaceous layer that is open with annuals present seasonally. The alliance is typically found on dry, open slopes, ridges, rocky highlands, canyons, sites of arroyos, bajadas, floodplains, valleys, and washes. Soils may be gravelly or rocky and may be alkaline or saline. Nevada joint fir is either dominant or codominant in the shrub canopy with spiny hopsage, Anderson's box thorn (*Lycium andersonii*), and Cooper's desert thorn (*Lycium cooperi*), rayless golden head (*Acamptopappus sphaerocephalus*), cheesebush, shadscale, blackbrush, Cooper's goldenbush (*Ericameria cooperi*), California buckwheat (*Eriogonum fasciculatum*), and sandpaper plant (*Petalonyx thurberi*). Emergent trees such as Joshua trees (*Yucca brevifolia*) may be present at low cover. Nevada Joint Fir Scrub was occasionally found associated with ephemeral wash edges in the Project area. Approximately 3.2 acres of the Project site have been classified as Nevada Joint Fir Scrub.

4.2.6 *Creosote Bush Scrub (*Larrea tridentata *Shrubland Alliance)*

Creosote Bush Scrub is characterized by an open to intermittent canopy with an herbaceous layer is open to intermittent with seasonal annuals or perennial grasses. The alliance typically found on alluvial fans, bajadas, upland slopes and along minor intermittent washes. Soils typically are well-drained. Creosote bush is dominant or codominant in the shrub canopy with rayless golden head, white bursage, cheesebush, shadscale, allscale, Nevada joint fir, and Anderson's box thorn. Emergent Joshua trees may be present at low cover. Creosote Bush Scrub characterized upland habitat in the northwest and southwest portion of the Project area. Approximately 127.9 acres of the Project area have been classified as Creosote Bush Scrub.

4.2.7 *Creosote Bush-White Bursage Scrub (*Larrea tridentata-Ambrosia dumosa *Shrubland Alliance)*

Creosote Bush-White Bursage Scrub is characterized by an open to intermittent canopy that may be two-tiered. The herbaceous layer is open to intermittent, with seasonal annuals. The alliance is typically found in the minor washes and rills, alluvial fans, bajadas, and upland slopes. The soils may be well-drained, alluvial, colluvial, and sandy. Creosote bush and white bursage are codominant in the shrub canopy with cheesebush, shadscale, all scale, brittlebush, Nevada joint fir, California buckwheat, rhatany (*Krameria* spp.), desert pepperweed (*Lepidium fremontii*), Anderson's box thorn, sandpaper plant, Mojave indigo bush (*Psorothamnus arborescens*), desert senna (*Senna armata*), and Mojave yucca. Emergent Joshua trees may be present at low cover. Creosote Bush-White Bursage scrub was the dominant vegetation community found in the Project area and characterized the majority of the upland habitat. Approximately 562.5 acres of the Project site have been classified as Creosote Bush-White Bursage Scrub.

4.2.8 *Joshua Tree Woodland (*Yucca brevifolia *Woodland Alliance)*

Joshua Tree Woodland is characterized by an open to intermittent canopy with an open to intermittent shrub layer. The herbaceous layer is open to intermittent with perennial grasses and seasonal annuals. The alliance is typically found on alluvial fans, ridges, gentle to moderate slopes and the soils or coarse sands

very fine silts, gravel, or sandy loams. Joshua tree is evenly distributed at greater than 1% absolute cover, and a shrub understory that may include white bursage, cheesebush, blackbrush, Nevada joint fir, California buckwheat, snakeweed (*Gutierrezia* spp.), creosote bush, and Anderson's box thorn. Joshua Tree Woodland was found intermittently in upland habitat generally surrounded by Creosote bush-white bursage scrub. Approximately 44.1 acres of the Project site have been classified as Joshua Tree Woodland.

4.2.9 Rubber Rabbitbrush Scrub (Ericameria nauseosa Shrubland Alliance)

Rubber Rabbitbrush Scrub is primarily found adjacent to developed areas and in areas that have undergone historic disturbance (such as such as fire, grazing, and/or soil tilling) where the natural vegetation communities have been removed. The community is dominated by rubber rabbitbrush (*Ericameria nauseosa*), a gray, woody shrub approximately two to three feet tall that blooms in late summer or fall with a yellowish inflorescence. Elements from other communities, such as desert saltbush scrub and Mojave creosotebush scrub, are also often found in the community. Because this community is confined to disturbed areas, it is hypothesized that vertisols (self-churning soils) may have been the only undisturbed natural sites of rubber rabbitbrush scrub (Holland 1986, 1992). This plant community at the Project matches the *Ericameria nauseosa* Shrubland Alliance as defined in *A Manual of California Vegetation* (Sawyer et al. 2009). This vegetation community was found only along the gen-tie routes and was not present within the main project area.

4.2.10 Red Brome or Mediterranean Grass Grasslands (Bromus rubens - Schismus (arabicus, barbatus) Herbaceous Semi-Natural Alliance)

Red Brome or Mediterranean Grass Grasslands primarily consists of non-native grasses from the Mediterranean region such as red brome and Mediterranean grass (*Schismus barbatus*). Red Brome or Mediterranean Grass Grasslands are typically found in disturbed and non-disturbed habitats along roadsides, railroads, and cultivated fields. It is highly invasive and widely distributed in the western United States and provides a source of fuel for wildfires. In the project, Red Brome or Mediterranean Grass Grasslands were dominated mostly by Mediterranean grass with patches of red brome and stands were found only along portions of the gen-tie routes in disturbed areas. Other common emergent species present included cheatgrass (*Bromus tectorum*), turkey mullein (*Croton setigerus*) and annual bursage (*Ambrosia acanthicarpa*). This vegetation community was found only along the gen-tie routes, and was not present within the main project area.

4.2.11 Disturbed/Developed

This land cover type is not a vegetation community, but rather a descriptor for areas mostly devoid of vegetation due to anthropogenic activities, and which have little to no potential to support native species. Disturbed/developed areas may include roads, buildings, and parking lots. At the Project many unimproved roads, the gen-tie corridors, and clearings with minimal vegetation were mapped as disturbed/developed. Approximately 11.6 acres of the project site have been classified as Disturbed/Developed.

4.2.12 Special Status Plant Communities

Sensitive vegetation communities are defined by CDFW as those "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of

Projects" (CDFW 2010). Vegetation communities with a State Rank of 1, 2, and 3 are considered special-status by CDFW. Two special-status plant communities, Mojave-Sonoran Desert Dunes (*Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance) and Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance) were identified in the Project. Joshua Tree Woodland and Mojave-Sonoran Desert Dunes are designated as a State Rank 3 natural community by CDFW. Communities with the State rank of 3 have less than 100 documented occurrences or are represented by less than 50,000 acres statewide.

4.3 Plants

This section describes the results of the 2019 January habitat assessment and April/May rare plant surveys. Relatively few plant species were observed during the January survey due to the timing of the survey. Most annuals grow and bloom in the spring, and many desert perennials are dormant in winter. Due to the lack of diagnostic characteristics, such as leaves and flowers, several plants could not be identified beyond genus. Native plant species frequently encountered were white bursage, fourwing saltbush, shadscale, allscale, Nevada joint-fir, winter fat (*Krascheninnikovia lanata*), creosote bush, Anderson's box thorn, Cooper's desert thorn, and Joshua tree.

Additional plant species were identified during the spring rare plant survey and can be found in the rare plant memorandum (SWCA 2019b). A fully updated list of observed plant species can be found in Appendix A.

4.3.1 Special Status Plants

Queries of the databases and lists, along with literature review, identified a total of nine (9) special-status plant taxa that have been documented within the 12-quad records search area (CDFW 2019). In addition, the Joshua tree was reviewed because it was under consideration for ESA listing. As of August 14, 2019, the USFWS concluded that protections for Joshua tree under the ESA are not warranted (USFWS 2019), and so the analysis and description of Joshua tree have been removed from this section. Seven (7) special status plants were determined to have a low, moderate, or high potential to occur; each is discussed in detail below (Table 2). Special status plants were not found during the January 2019 reconnaissance-level survey, likely due to the survey methods and timing. The rare plant survey, which was conducted during the blooming period for the rare plant species listed in this section. The results were used to inform the presence/absence determinations of each species with potential to occur. The results of the survey confirmed the presence of one rare plant species, Beaver Dam breadroot (*Pediomelum castoreum*). Detailed results can be found in the *Rare Plant Survey for the Baldy Mesa Solar Project* memorandum (SWCA 2019b).

Table 2. Habitat Assessment for Special Status Plants in the Project

Species	Status[1]	Habitat Description[2]	Blooming Period	Habitat Suitability
desert cymopterus *Cymopterus deserticola*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. On fine to coarse, loose, sandy soil of flats in old dune areas with well-drained sand. 630-1,500 meters.	March - May	**Low.** There is suitable habitat in the survey area, the nearest record of this species is from 1941, 13.1 miles to the southeast.

Species	Status[1]	Habitat Description[2]	Blooming Period	Habitat Suitability
Mojave monkeyflower *Diplacus mohavensis*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. Dry sandy or rocky washes along the Mojave River. 660-1,270 meters.	April - June	**Low.** There is moderate quality habitat in the survey area, the nearest record of this species is from 1998, 5.9 miles to the east.
Booth's evening-primrose *Eremothera boothii* ssp*. boothii*	2B.3	Joshua Tree Woodland, pinon and juniper woodland. 290-2,410 meters.	June - August	**Low.** There is marginally suitable habitat in the survey area, the nearest record of this species is from 1989, 5.0 miles to the east.
Barstow woolly sunflower *Eriophyllum mohavense*	1B.2	Chenopod scrub, Mojavean desert scrub, desert playas. Mostly in open, silty or sandy areas w/ Saltbush Scrub, or Creosote Bush Scrub. Barren ridges or margins of playas. 605-1,290 m.	March - May	**Moderate.** There is suitable habitat in the survey area, the nearest record of this species is from 2011, 13.3 miles to the northwest.
sagebrush loeflingia *Loeflingia squarrosa* var*. artemisiarum*	2B.2	Great Basin scrub, Sonoran Desert scrub, desert dunes. Sandy flats and dunes. Sandy areas around clay slicks with *Sarcobatus*, *Atriplex*, *Tetradymia*, etc. 700-1,615 meters.	April - May	**Low.** There is marginally suitable habitat in the survey area, the nearest record of this species is from 2005, 9.1 miles to the south.
short-joint beavertail *Opuntia basilaris* var*. brachyclada*	1B.2	Chaparral, Joshua Tree Woodland, Mojavean desert scrub, pinon-juniper woodland. Sandy soil or coarse, granitic loam. 425-1,800 meters.	April - June	**Low.** There is marginally suitable habitat in the survey area, the nearest record of this species is from 2006, 13.1 miles to the south.
Beaver Dam breadroot *Pediomelum castoreum*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. Sandy soils; washes and road cuts. 610-1,065 meters.	April - May	**Present.** There is suitable habitat in the survey area; there is one overlapping record from 2009. Species was observed during the 2019 rare plant survey.
southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425-2,000 meters.	June - August	**Absent.** There is no suitable habitat in the survey area.
San Bernardino aster *Symphyotrichum defoliatum*	1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 2-2,040 meters.	July - November	**Absent.** There is no suitable habitat in the survey area.

Species	Status[1]	Habitat Description[2]	Blooming Period	Habitat Suitability

1: Ranks for the species included in this list are sourced from CNDDB. All plants included in this list are limited to California Rare Plant Ranks (CRPR).
2: Habitat descriptions are direct quotes from CNDDB, consisting of the general and microhabitat descriptions of the corresponding element.

CRPR Rankings:
1B: Rare, threatened, or endangered in California and elsewhere.
2B: Rare, threatened, or endangered in California, but more common elsewhere.
0.2: Fairly threatened in California.
0.3: Not very threatened in California

4.3.1.1 DESERT CYMOPTERUS

Desert cymopterus (*Cymopterus deserticola)* is a CRPR 1B.2 perennial herb that flowers between March and May. CRPR 1B.2 species are rare, threatened, or endangered in California and elsewhere, and are fairly threatened in California. Desert cymopterus is known to occur on loose, sandy soils within Joshua Tree Woodland and Mojavean desert scrub at elevations between 630 and 1,500 meters amsl. This species is threatened by military activities, sheep grazing, vehicles, utility construction, and urbanization. The nearest CNDDB record is from 1941 and is 13.1 miles to the southeast of the Project along SR 18 in the Apple Valley region. However, the occurrence is listed as possibly extirpated.

Based on habitat suitability, the initial potential for this species to occur was determined to be low. Desert cymopterus was not observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was an appropriate blooming period for this species. Considering both the habitat assessment and rare plant survey results, this species is considered absent from the Project site.

4.3.1.2 MOJAVE MONKEYFLOWER

Mojave monkeyflower (*Diplacus mohavensis*) is a CRPR 1B.2 annual herb that flowers between April and May. CRPR 1B.2 species are rare, threatened, or endangered in California and elsewhere, and are fairly threatened in California. Mojave monkeyflower occurs commonly in washes in sandy or gravelly soil in Joshua Tree Woodland and Mojavean desert scrub, at elevations between 600 and 1,270 meters amsl. This species is threatened by development, mining, non-native plants, solar and wind energy projects, and vehicles. There is moderate quality habitat located near ephemeral washes associated with the Fremont Wash, which traverses the northern portion of the Project. However almost all records are found east of the Mojave River reducing the likelihood of encountering this species. The nearest record was documented in 1998 approximately 5.9 miles to the east.

Based on habitat suitability, the initial potential for this species to occur was determined to be low. Mojave monkeyflower was not observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was an appropriate blooming period for this species. Considering both the habitat assessment and rare plant survey results, this species is considered absent at the Project site.

4.3.1.3 BOOTH'S EVENING-PRIMROSE

Booth's evening-primrose (*Eremothera boothii* ssp. *boothii*) is a CRPR 2B.3 annual herb that flowers between June and August. CRPR 2B.3 species are rare, threatened, or endangered in California, but more commonly found elsewhere, and are not very threatened in California. Booth's evening-primrose occurs in sandy flats and steep loose slopes, primarily in Joshua Tree Woodland and Pinyon-Juniper Woodland 290-2,410 meters amsl. The species is potentially threatened by development and is possibly threatened by mining, vehicles, and foot traffic. All records of Joshua Tree Woodland in the vicinity of the Project

were associated with the Mojave River. The nearest record was documented in 1989 approximately 5.0 miles to the east.

Based on habitat suitability, the initial potential for this species to occur was determined to be low. Booth's evening primrose was not observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was not an appropriate detection period for this species. The blooming season for Barstow woolly sunflower is June through August. Considering both the habitat assessment and rare plant survey results, and the marginal habitat suitability, this species is still considered to have low potential for occurrence at the Project site.

4.3.1.4 BARSTOW WOOLLY SUNFLOWER

Barstow woolly sunflower (*Eriophyllum mohavense*) is a CRPR 1B.2 annual herb that flowers between March and May. CRPR 1B.2 species are rare, threatened, or endangered in California and elsewhere, and are fairly threatened in California. Barstow woolly sunflower occurs in open, silty or sandy areas with Saltbush Scrub or Creosote Bush Scrub at elevations between 605-1,290 meters amsl. The species is threatened by energy development, road improvements, vehicles, and grazing. There is some suitable habitat in the northwestern portion of the Project associated with the Fremont Wash basin in areas dominated by allscale. The nearest record was documented in 2011, approximately 13.3 miles to the northwest.

Based on habitat suitability, the initial potential for this species to occur was determined to be moderate. Barstow woolly sunflower was not observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was an appropriate blooming period for this species. Considering both the habitat assessment and rare plant survey results, this species is considered absent at the Project Site.

4.3.1.5 SAGEBRUSH LOEFLINGIA

Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum)* is a CRPR 2B.2 annual herb that flowers between April and May. CRPR 2B.2 species are rare, threatened, or endangered in California, but more commonly found elsewhere, and are fairly threatened in California. Sagebrush loeflingia is known to occur in sandy soils in desert dunes, Great Basin scrub, and Sonoran Desert scrub at elevations between 700 and 1,615 meters amsl. This species is threatened by grazing and vehicles. There is some marginal habitat located near a dune complex located in the southwestern portion of the Project. The nearest record from 2005 is located approximately 9.1 miles to the south.

Based on habitat suitability, the initial potential for this species to occur was determined to be low. Sagebrush loeflingia was not observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was an appropriate blooming period for this species. Considering both the habitat assessment and rare plant survey results, this species is considered absent at the Project Site.

4.3.1.6 SHORT-JOINT BEAVERTAIL

Short-joint beavertail (*Opuntia basilaris* var. *brachyclada*) is a CRPR 1B.2 perennial stem succulent that flowers between April and June, and sometimes in August. CRPR 1B.2 species are rare, threatened, or endangered in California and elsewhere, and are fairly threatened in California. Short-joint beavertail is found in chaparral, Joshua Tree Woodland, Mojavean desert scrub, and pinyon-juniper woodland at elevations between 425 and 1,800 meters amsl. Urbanization, mining, horticultural collecting, grazing, and vehicles are the primary threats to this species. Other possible threats include powerline construction and non-native plants. While suitable Joshua Tree Woodland and Mojavean desert scrub is present, the

Project area is generally outside of the known range. The nearest CNDDB record of this species is from 2006, approximately 13.1 miles to the south.

Based on habitat suitability, the initial potential for this species to occur was determined to be low. Short-joint beavertail was not observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was an appropriate blooming period for this species. Considering both the habitat assessment and rare plant survey results, this species is considered absent at the Project Site.

4.3.1.7 BEAVER DAM BREADROOT

Beaver Dam breadroot (*Pediomelum castoreum*) is a CRPR 1B.2 perennial herb that flowers between April and May. CRPR 1B.2 species are rare, threatened, or endangered in California and elsewhere, and are fairly threatened in California. Beaver Dam breadroot occurs in sandy washes and road cuts in Joshua Tree Woodland and Mojavean desert scrub at elevations between 610 and 1,065 meters amsl. Vehicles and road-widening projects are the primary threats to this species. There is an overlapping CNDDB record from 2009 in the northern portion of the Project area south of the Fremont Wash. Suitable habitat occurs in the northern portion of the Project near the Fremont Wash and along all ephemeral washes traversing through the Project area.

Based on habitat suitability, the initial potential for this species to occur was determined to be high. Beaver Dam breadroot was observed during the 2019 rare plant survey. The survey was conducted in April-May 2019, which was an appropriate blooming period for this species. Considering both the habitat assessment and rare plant survey results, this species is considered present at the Project Site.

One Beaver Dam breadroot was observed within the project and four other individuals Beaver Dam breadroots were found within approximately 150 meters of the site; all near the existing CNDDB record (Figure 8). These individuals were found at the interface of disturbed Allscale Scrub and Joshua Tree Woodland, near road cuts on compacted substrate with adjacent off-road vehicle tracks.

4.4 Wildlife

Wildlife observations during the reconnaissance-level survey were sparse due to the timing of the survey. Few birds overwinter in the desert and several species of mammals and reptiles hibernate throughout winter. The birds most frequently encountered were typical of the Mojave Desert: common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), sagebrush sparrow (*Artemisiospiza nevadensis*) and white-crowned sparrow (*Zonotrichia leucophrys*). Two species of mammals were observed directly: white-tailed antelope squirrel (*Ammospermophilus leucurus*) and black-tailed jackrabbit (*Lepus californicus*). In addition, there was recent evidence of coyote and other common mammals. Due to the timing and cool conditions of the January survey, only one species of reptile was encountered: western side-blotched lizard (*Uta stansburiana elegans*). Most desert reptiles are usually active during the spring and summer months. Common reptiles expected to occur include Mojave rattlesnake (*Crotalus scutulatus*), desert iguana (*Dipsosaurus dorsalis*), desert horned lizard (*Phrynosoma platyrhinos*), and zebra-tailed lizard (*Callisaurus draconoides*).

Additional common wildlife species were identified during the April 2019 desert tortoise and Mohave ground squirrel surveys, and June 2019 survey for Gen-tie Option 4 (ENVIRA 2019, SWCA 2019b and 2019c). A list of wildlife species observed during field surveys can be found in Appendix B.

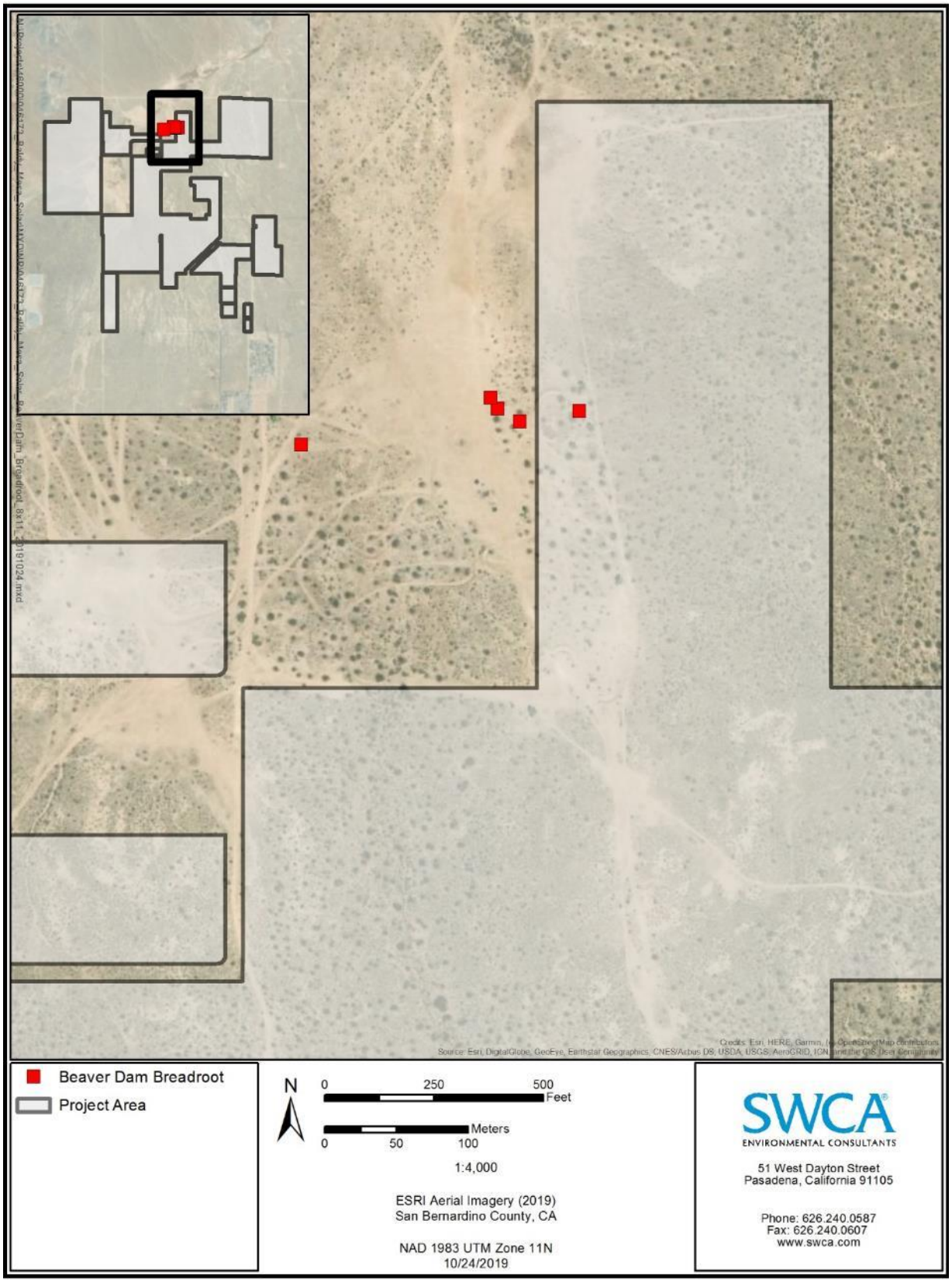

Figure 8. Beaver Dam breadroot individuals found within and near the Project.

4.4.1 Wildlife Movement and Migratory Corridors

Wildlife movement corridors are defined on both a regional and on a local basis. Regionally, the Project area lies within a large area between the San Gabriel Mountains and Edwards Air Force Base, two core habitat blocks. According to the analysis in *A Linkage Network for the California Deserts*, there are three low-cost corridors for American badger to the north, east, and west of the Project and one low-cost corridor for desert kit fox and desert tortoise to the north of the Project (Penrod et.al. 2012). The Project is centrally located among these corridors, but is not within or adjacent to any of them.

This region of the Mojave Desert is generally open, but fragmented by development to the south. This development forms barriers to movement and includes infrastructure, such as highways, housing developments, and a few solar facilities. These barriers inhibit the movement of some species that have limited home ranges or low dispersal ability, and may reduce the movement of wide-ranging species such as American badger, desert kit fox, and coyote.

On a local basis, the Project site currently provides unrestricted wildlife movement, as there are no fences or other obstructions to wildlife passage. Migratory birds may utilize the Project site and vicinity for breeding, nesting, and foraging, or as transient rest sites during migration flights. Desert kit fox, American badger, and coyote may travel across the Project site in search of prey opportunities, and to access higher-quality habitat in the area for both prey and cover.

4.4.2 Special Status Wildlife

Based on the results of the literature and database review, 31 species of wildlife were found to have occurrences within the literature and records query area. These species were evaluated for their potential to occur in the Project area based on considerations of local records, habitat conditions, and environmental requirements (Table 3) (CDFW 2019). After this assessment, 11 species were considered to have the potential to occur at the Project, each of which is discussed in detail below. Five (5) species and/or their diagnostic sign were observed during the reconnaissance-level survey and April 2019 desert tortoise and Mohave ground squirrel surveys. These species include: loggerhead shrike (*Lanius ludovicianus*), desert tortoise, burrowing owl, desert kit fox, and American badger. Only loggerhead shrike was observed directly.

Table 3. Habitat Assessment for Special Status Wildlife in the Project Area

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
INVERTEBRATES			
Crotch bumble bee *Bombus crotchii*	ST	Coastal California to Sierra-Cascade crest, and to Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	**Absent.** Food plant species are present (*Eriogonum*) in the Project site, but the habitat is not suitable.
San Emigdio blue butterfly *Plebulina emigdionis*	SA	Desert canyons & along riverbeds. Host plant is *Atriplex canescens*; possibly *Lotus purshianus.*	**Absent.** No suitable habitat is present within the Project site.
Victorville shoulderband *Helminthoglypta mohaveana*	SA	Known only from along the Mojave River in San Bernardino County. Found among granite boulders and at the base of rocky cliffs.	**Absent.** No suitable habitat is present within the Project site.

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
FISH			
Mohave tui chub *Siphateles bicolor mohavensis*	CSSC	Endemic to the Mojave River basin, alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning.	**Absent.** No suitable habitat is present within the Project site.
AMPHIBIANS			
Arroyo toad *Anaxyrus californicus*	FE	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	**Absent.** No suitable habitat in the Project site. The Fremont Wash does not contain the specific habitat needs for this species, specifically sufficient riparian vegetation.
California red-legged frog *Rana draytonii*	FT, CSSC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	**Absent.** No suitable habitat in the Project site.
REPTILES			
Western pond turtle *Emys marmorata*	CSSC	Ponds, marshes, rivers, streams & irrigation ditches, with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Absent.** No suitable habitat in the Project site.
Desert tortoise *Gopherus agassizii*	FT, ST	Desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Requires friable soil for burrow and nest construction. Creosote bush habitat with annual wildflower blooms preferred.	**Present.** Several burrows and scat were found during the surveys. The nearest CNDDB record is from 2002 located 2.7 miles to the north.
Coast (Blainville's) horned lizard *Phrynosoma blainvillii*	CSSC	Most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	**Absent.** There is no suitable habitat within the Project site. Desert horned lizards (*Phrynosoma platyrhinos*) replace this species in hotter, drier areas.
BIRDS			
Tricolored blackbird *Agelaius tricolor*	ST, CSSC	Requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of colony.	**Absent.** Habitat is unsuitable for foraging; no nesting habitat is present.
Golden eagle *Aquila chrysaetos*	CFP, WL	Forages in open grasslands, desert scrub and agricultural fields. Nests on ledges on cliff faces, rock outcrops and occasionally in large trees.	**High (foraging). Absent (nesting).** Suitable habitat for wintering and foraging eagles is present. No nesting habitat present.
Long-eared owl *Asio otus*	CSSC	Riparian bottomlands grown to tall willows and cottonwoods; require adjacent open land, with rodent food sources and raptor nests for breeding.	**Absent.** No suitable habitat in the Project site.

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
Burrowing owl *Athene cunicularia*	CSSC	Open grassland, shrublands and croplands	**Present.** Burrows were found throughout the Project site. Some had signs of burrowing owl occupation such as whitewash, pellets, and feathers. The nearest record of this species is from 2007 and is located 3.3 miles to the southeast.
Swainson's hawk *Buteo swainsoni*	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannahs.	**Absent.** Trees suitable for nesting are absent from the Project site. Local records are concentrated near the Mojave River and agriculture.
Mountain plover *Charadrius montanus*	CSSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	**Absent.** No suitable habitat in the Project site.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems; Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Absent.** No suitable habitat in the Project site.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE, SE	Riparian woodlands in Southern California.	**Absent.** No suitable habitat in the Project site.
Yellow-breasted chat *Icteria virens*	CSSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, and wild grape.	**Absent.** No suitable habitat in the Project site.
Loggerhead shrike *Lanius ludovicianus*	CSSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Present.** Species was observed during the field surveys.
Summer tanager *Piranga rubra*	CSSC	Summer resident of desert riparian along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams.	**Absent.** No suitable habitat in the Project site.
Yellow warbler *Setophaga petechia*	CSSC	Riparian plant associations. Nests and forages in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	**Absent.** No suitable habitat in the Project site.
Least Bell's vireo *Vireo bellii pusillus*	FE, SE	Summer resident of southern California. Low riparian habitats near of water or dry river bottoms, below 2,000 feet.	**Absent.** No suitable habitat in the Project site.

Scientific Name	Status[1]	Habitat Type	Occurrence Potential
Gray vireo *Vireo vicinior*	CSSC	Dry chaparral; west of desert, in chamise-dominated habitat; mountains of Mojave Desert, associated with juniper & *Artemisia.*	**Absent.** No suitable habitat in the Project site.
MAMMALS			
Pallid bat *Antrozous pallidus*	CSSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low (foraging only).** Habitat in the Project site is suitable for foraging; there is no roosting habitat present. This species has been recorded 14.2 miles southeast of the Project site in 2016.
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	CSSC	San Diego County in desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	**Low.** There is suitable habitat in the Project site, specifically within the Fremont wash. The nearest record of this species is from 1920 and is located 5.2 miles to the east.
Townsend's big-eared bat *Corynorhinus townsendii*	CSSC	Most common in mesic sites. Roosts in caves and mines, sometimes buildings, bridges, trees. Roosting sites limiting. Extremely sensitive to human disturbance.	**Low (foraging only).** Habitat in the Project site is suitable for foraging; there is no roosting habitat present. This species has been recorded 5.2 miles east of the Project site in 1930.
Western mastiff bat *Eumops perotis californicus*	CSSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Low (foraging only).** Habitat in the Project site is suitable for foraging; there is no roosting habitat present. The nearest CNDDB record of this species is from 1997, approximately 7.6 miles west of the Project site.
Mohave river vole *Microtus californicus mohavensis*	CSSC	Weedy herbaceous growth in wet areas along Mojave River. Sometimes found in irrigated pastures. Burrows into soft soil. Feeds on leafy parts of grasses, sedges and herbs.	**Absent.** No suitable habitat in the Project site.
Desert kit fox *Vulpes macrotis arsipus*	CPF	Desert scrub, washes, and arid grasslands	**Present.** Several dens with fresh scat were found during the survey. Species not tracked in any public databases.
American badger *Taxidea taxus*	CSSC	Dry open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food (rodents) and open uncultivated ground for burrows.	**Present.** Several dens with clearly visible signs, such as claw marks were found. The most recent record is from 1987 and 20 miles south of the Project site.
Mohave ground squirrel *Xerospermophilus mohavensis*	ST	Open desert scrub, alkali scrub & Joshua tree woodland. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover.	**High.** May be present based on Mohave ground squirrel habitat assessment. There is suitable habitat in the Project site. The nearest CNDDB record is from 2005 and within 40 meters of the Project site.

[1] **Federal Rankings:**
FE = Federally Endangered
FT = Federally Threatened
FC = Federal Candidate for Listing

State Rankings:
SE= State Endangered
ST = State Threatened
CFP = California Fully Protected
CPF = California Protected Fur-bearer
SA = CDFW Special Animal
CSSC = California Species of Special Concern

4.4.2.1 REPTILES

4.4.2.1.1 Desert Tortoise

The desert tortoise (*Gopherus agassizii*) is a federally threatened and state threatened species. Desert tortoises are typically found below 5,000 feet in elevation. This species occurs in almost every desert habitat, but is most common in desert scrub, desert wash, and Joshua tree habitats. These habitats are typically dominated with creosote bush and white bursage (*Ambrosia dumosa*), but may also consist of cacti (*Opuntia* spp.) and saltbush (*Atriplex* spp.). They require friable soil for burrowing and nest construction and prefer creosote bush habitat with large annual wildflower blooms. Desert tortoises are most active during spring and early summer, then again during fall. During the hot summer months, they are usually found within burrows or other shelter sites, but may emerge after a rain event. Desert tortoises enter a state of torpor and remain in their burrows during the coldest months, typically November to February. In addition to burrows within soil, tortoises may also shelter in other structures, including caliche caves, lava tubes, rock caves, rodent or other mammal burrows, shrubs, and human made structures (USFWS 2009). Desert tortoise are long-lived and site-faithful, with lifespans of up to 80 years.

There are numerous threats to this species both direct and indirect. Direct threats affect the survival and reproduction of the tortoise and include road mortality, illegal collecting, disease, and predation. Indirect threats are factors that primarily affect tortoise habitat, such as drought, climate change, and habitat alterations from recreational use and grazing (Boarman 2002).

The nearest CNDDB occurrence of the desert tortoise is from 2002 and is located 2.7 miles north of the Project site, and there is a 2008 record of two individuals approximately 5 miles northwest of the Project site. The entirety of the Project site consists of suitable habitat for desert tortoises. The Fremont Wash, which traverses the western portion of the Project site, and the presence of numerous ephemeral washes throughout the Project site provide suitable habitat for this species. Vehicle use, loose dogs, and other anthropogenic disturbances have reduced the habitat quality at the Project from that of a pristine site. The majority of the gen-tie routes were found to be unsuitable habitat for desert tortoise due to low quality habitat, proximity to high speed roadways, residences, illegal dumping, and off-road vehicle travel.

During the January 2019 reconnaissance-level survey, evidence of tortoises was found, but no live tortoises were observed. Specifically, several deteriorated condition possible desert tortoise burrows (USFWS Class 5) in were identified in the western and northern portion of the Project site, and one deteriorated definitely desert tortoise burrow (USFWS Class 3) was observed in the western portion of the Project site. The burrows were all deteriorated and were classified based on the shape of the entrance and walls of the tunnel. In addition to burrows, one desert tortoise scat over one year old was found near an ephemeral wash in the northern portion of the Project site.

During the April 2019 desert tortoise survey, no live tortoises or carcasses were found despite the ideal conditions and presence of suitable habitat. Across the entire Project site, 59 burrows were identified as tortoise burrows, meaning that they had been originally excavated by desert tortoise, whether or not they were currently suitable for occupancy (Figure 9). One burrow was identified as a Class 1 burrow, located in the northeastern portion of the project. The burrow was relatively large and identified as Class 1 based on a recent (less than one year old) scat found within it. The scat was classified as recent due to the retention of dark coloration and intact state, but it did not retain any moisture. However, the scat was found inside the burrow and had not been exposed to the typical desert elements, possibly slowing the aging process. No other scat was found in the immediate area around this burrow.

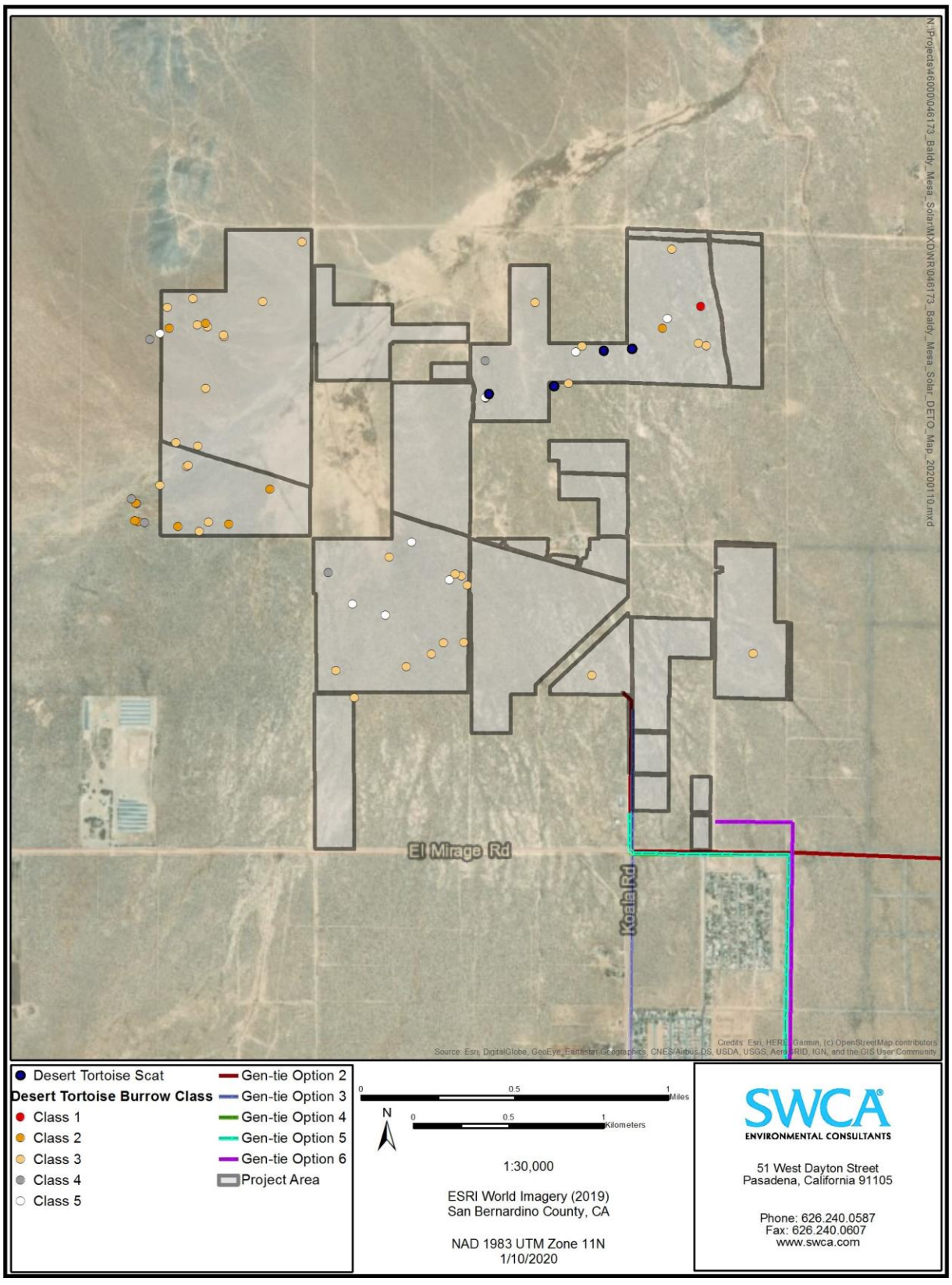

Figure 9. Desert tortoise burrows and scat recorded during the survey.

The Class 1 burrow was visited on seven separate occasions during the April 2019 surveys and subsequent Gen-tie surveys. The purpose of revisiting the burrow was to document any additional signs that would indicate that the burrow was actively being used by desert tortoise. The biologists photographed and documented any new signs of wildlife activity during each visit. Table 4 summarizes the observations made during the burrow visits. Photographs 7 through 11 in Appendix C show the burrow and sign observed at various times.

Table 4. Class 1 Desert Tortoise Burrow Status and Visit Dates

Date of Visit	Burrow Status
April 11, 2019	Initial visit, scat was found inside of the burrow.
April 12, 2019	No new sign of activity.
April 17, 2019	No new sign of activity.
April 25, 2019	No new sign of activity.
June 24, 2019	Fresh coyote scat found at the entrance of the burrow. No new desert tortoise sign.
October 15, 2019	Recent desert kit fox scat found at the entrance of the burrow. Burrow entrance was covered in cobwebs and the shrub above the burrow was partially destroyed. No new desert tortoise sign.
December 13, 2019	No new sign of activity. Interior of burrow partially collapsed, likely due to recent rain. No new desert tortoise sign.

No new desert tortoise scat, tracks, or evidence of herbivory (i.e. bite marks) were found at or near the burrow during the subsequent visits.

All remaining tortoise burrows were identified as Classes 2–5. The western and northeastern portions of the Project contained the highest concentration of burrows, likely due to suitable vegetation communities, further distance from human disturbances and impacts, and potential connectivity to larger tracts of undisturbed land. These areas were identified as habitat currently suitable for desert tortoise occupation. Although no live desert tortoises were found, this species is presumed to be present based on the signs found and suitable habitat conditions. The desert tortoise population within and near the Project is likely very low.

4.4.2.2 BIRDS

4.4.2.2.1 Golden Eagle

The golden eagle (*Aquila chrysaetos*) is a CDFW fully protected species and a listed as endangered under the CESA; it is also protected pursuant to the federal Bald and Golden Eagle Protection Act. This species has an extremely large global range that includes much of North America, Eurasia, and parts of northern Africa. The golden eagle is an uncommon but widespread resident in California and is known to nest in the Tehachapi Mountains and occasionally on its southern foothills. Territories regularly span 5 to 10 miles depending on the availability of prey, nest sites, and wind resources. Breeding adults in desert settings may range up to 10 miles from the nest while foraging. Golden eagles nest on cliffs, rock outcrops, or in large trees, none of which are present in the Project site. Foraging golden eagles require large amounts of open space for hunting, such as grasslands, deserts, and savannahs. The entire Project site provides suitable habitat and may support a suitable prey base. Mid-sized mammals such as rabbits and marmots are preferred, but prey may be as small as ground squirrels or as large as deer (rarely), and golden eagles will consume carrion when it is available. The Project site supports some small to moderate-sized mammalian prey species, including black-tailed jackrabbits and desert cottontail (*Sylvilagus audubonii*).

No golden eagles were observed incidentally by SWCA biologists in the Project site, and there is no suitable habitat for nesting within several miles. The Project site is suitable for foraging, and there are recent records of wintering golden eagles to the west of the Project area. The potential for golden eagle to forage within the Project site at a very low density is high. However, because there are no potential nest sites in the Project area, golden eagle is considered absent as a nesting species.

4.4.2.2.2 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is listed as a Species of Special Concern by CDFW and occurs in a wide range of mostly open habitats in California, including grasslands, shrub-steppe, deserts, pastures, and agricultural areas. The migratory movements of this species are not well understood. Breeding populations from the northern range of the species are apparently migratory, though southern California breeders are probably year-round residents (Thomsen 1971). Seasonal movements also occur in some parts of the southern range. Increases in winter population sizes within southern California are probably the result of immigration of owls from more northerly areas (Sheffield 1997). Male burrowing owls that reside year-round in southern California may overwinter in burrows within nesting areas, which allows them to retain possession of their burrows and territories, and to maintain the burrows (Johnsgard 2002).

Suitable habitat for burrowing owl includes short vegetation and, in the breeding season, the presence of small mammal burrows. The California range of this species extends from Redding south to San Diego, east through the Mojave Desert and west to San Francisco and Monterey. The key characteristics of suitable habitat are moderately low and sparse vegetation; a prey base of small mammals, reptiles, and/or large insects during nesting; and burrows or similar sites for shelter. This species occurs at low densities throughout the Cities of Victorville and Hesperia south of the Project area, where it is present in both the breeding and non-breeding seasons, as recorded in the CNDDB and eBird. CDFW considers burrows occupied within the last three years to be occupied for the purposes of documenting burrowing owls at a project and evaluating potential impacts (CDFW 2012). The nearest CNDDB record of this species is 3 miles to the southeast and was recorded in 2007. Habitat in the Project site is suitable for this species.

During the April 2019 desert tortoise survey, 13 burrowing owl burrows were documented within the Project (Figure 10). Other burrows excavated by American badger, desert tortoise, and desert kit fox may also provide suitable nest sites for this species. Burrowing owl is present within the Project area.

4.4.2.2.3 Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is listed as a CDFW Species of Special Concern. This species occurs in areas with widely-spaced shrubs or low trees, such as scrublands, steppes, deserts, savannahs, prairies, agricultural lands, and sometimes suburban areas. This species preys on large insects, lizards, small mammals, birds, and carrion. It requires open areas for hunting, and shrubs or low trees for perches and nest sites. Several loggerhead shrikes were observed during all field surveys and there is suitable habitat within the Project site. Loggerhead shrike is considered present.

4.4.2.3 MAMMALS

4.4.2.3.1 Pallid Bat

The pallid bat (*Antrozous pallidus*) is a CDFW Species of Special Concern. This widespread species occurs as far south as Baja California and as far north as British Columbia. Populations of this species are severely fragmented, but may be locally common. Pallid bats are typically found in a wide range of habitats including deserts, grasslands, shrublands, woodlands and forests. They are most common in open, dry habitats with rocky areas for roosting. Pallid bats have been found to roost in mines, caves, and

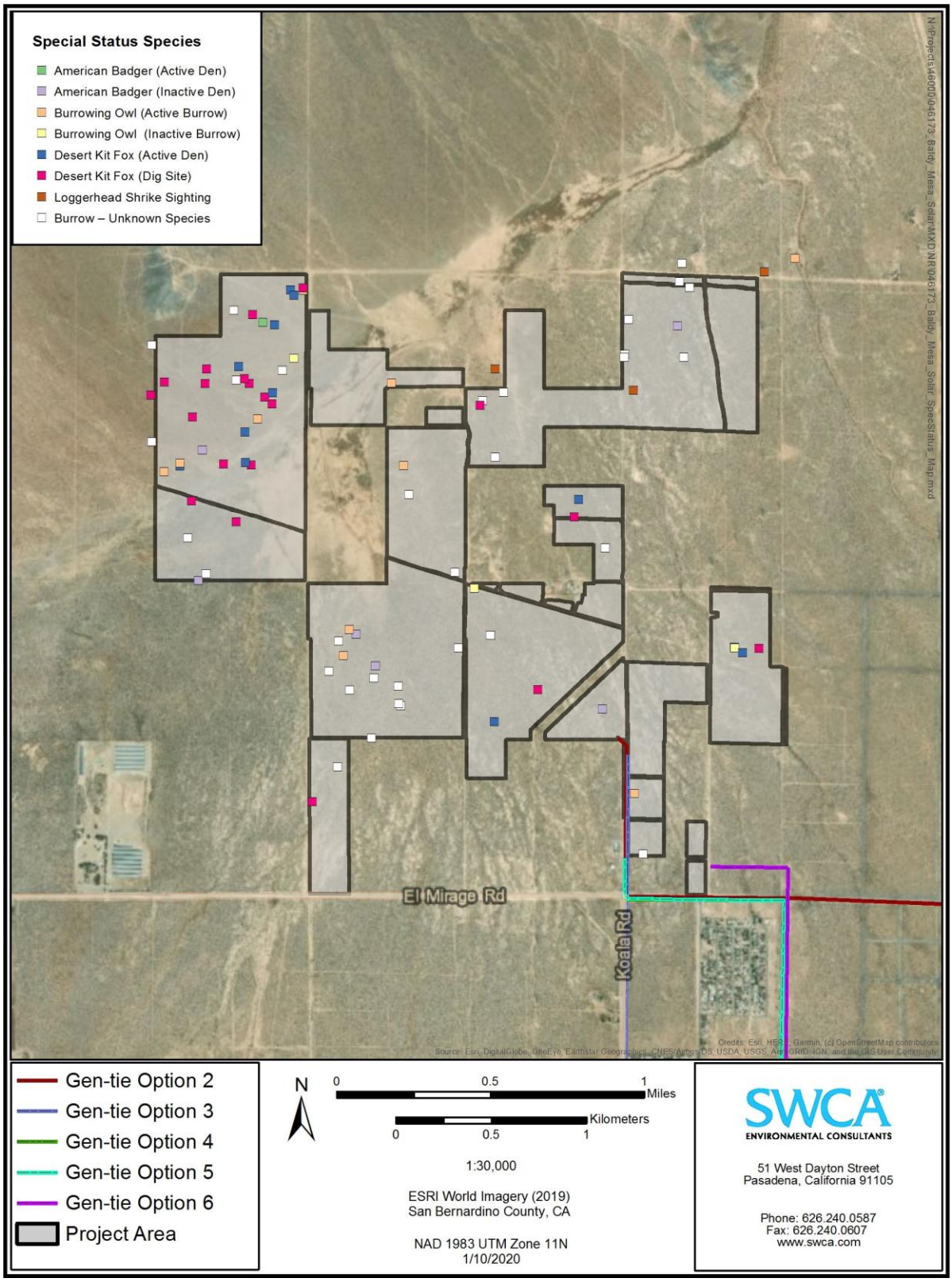

Figure 10. Special status species sightings and signs (other than desert tortoise) that were recorded during the desert tortoise survey.

buildings. This species is sensitive to disturbance while roosting, and the main threats to the species include human activity such as vandalism, recreational activities, mine closures and reclamation. Habitat in the Project site is suitable for foraging, but there is no potential roosting habitat for this species. There is a CNDDB record from 2016 of this species 14.2 miles to the southeast of the Project site. This species has a low potential to occur while foraging.

4.4.2.3.2 Pallid San Diego Pocket Mouse

The pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) is a CDFW Species of Special Concern. This species occurs in desert border areas in desert washes, desert scrub, desert succulent scrub, and pinyon-juniper. It is commonly associated with sandy, herbaceous areas with rocks or coarse gravel. This species forages on seeds of forbs and shrub seeds, with a preference for grass seeds. The major threat to this species is habitat destruction due to the expansion of urban areas. The nearest CNDDB record of the pallid San Diego pocket mouse is from 1920 and is 5.2 miles to the east of the Project area. The species has a low potential to occur in the Project site.

4.4.2.3.3 Townsend's Big-eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW Species of Special Concern. Townsend's big-eared bat occurs throughout most of California, albeit with a patchy distribution. It is closely tied to caves and cave-like roost sites, which can include hollow trees and mines, and sometimes buildings or water diversion tunnels. This species is sensitive to disturbance while roosting, and the main threats to the species are likely human impacts to roosts. In the Mojave Desert, Townsend's big-eared bat is mostly dependent on mining infrastructure for roost sites. Habitat in the Project site is suitable for foraging, but there is no potential roosting habitat for this species. There are records of this species 5.2 miles east of the Project area, but they are from 1930. This species has a low potential to forage in the Project site.

4.4.2.3.4 Western Mastiff Bat

Western mastiff bat (*Eumops perotis californicus*) is a CDFW Species of Special Concern. Western mastiff bat occurs sporadically throughout most of California in many different habitat types including conifer and deciduous woodlands, coastal scrub, desert scrub, grasslands and chaparral. The species roosts in crevices and cliff faces, high buildings, trees and tunnels. This species is threatened by development and destruction of foraging habitat. Habitat in the Project area is suitable for foraging but there is no potential roosting habitat for this species. The nearest record for this species is 7.6 miles west of the Project from 1997. Western mastiff bat has a low potential to forage in the Project site.

4.4.2.3.5 Desert Kit Fox

Desert kit fox (*Vulpes macrotis arsipus*) is afforded protection from take under California Fish and Game Code sections 460 and 4000-4003. Much of the Mojave Desert provides habitat for this species, although its population status and trends are unclear. The CNDDB does not maintain records for this species, so no location records are available for reference, although it is regularly encountered in desert habitats. Desert kit fox can be found in a wide range of habitat types, including desert scrub, washes, and arid grasslands. In the western Mojave, desert kit fox dens are frequently located on west- and northwest-facing slopes on friable soils with an absence of stones, caliche, or hardpan. Kit foxes use multiple dens, and switch dens frequently throughout the year. Breeding typically occurs in December and January, and pups have usually left the natal den by May. The entirety of the Project site is suitable habitat for desert kit fox. No kit foxes were observed during any of the surveys, likely due to their nocturnal habits, but several dens with fresh scat were found throughout the Project site. During the April 2019 desert tortoise survey, 10

desert kit fox dens and 22 dig sites were documented within the Project (see Figure 10). Desert kit fox is considered to be present within the Project area.

4.4.2.3.6 American Badger

American badger (*Taxidea taxus*), a CDFW Species of Special Concern, is generally found in open areas, including open woodlands, desert scrub, and grasslands. This species requires friable soils and a sufficient prey base of small rodents. The Project site is considered potential habitat for this species, which is widespread but uncommon throughout North America. Badger dens are distinctive due to their size and the presence of claw marks on the sides created when the den was dug. Badgers are often killed by farmers because their dens and diggings pose a hazard to livestock.

The entire Project area is suitable habitat for American badger. The most recent record of this species was recorded in 1987, approximately 20 miles to the south. However, despite the distance and age of the known CNDDB record, signs of badger were found throughout the Project site. Several badger digs, including potential dens with the distinctive horizontal scrapes were found during the field surveys. In addition, numerous rodent burrows are located throughout the Project site, which suggests that there is a sufficient prey base for badgers. The lack of recent records in CNDDB and direct observations is likely due to the nocturnal habits of this species.

During the April 2019 desert tortoise survey, seven American badger dens were documented within the Project (see Figure 10). American badger is considered to be present within the Project area.

4.4.2.3.7 Mohave Ground Squirrel

Mohave ground squirrel (*Xerospermophilus mojavensis*) is a state threatened species that occurs in open desert scrub, alkali scrub, and Joshua Tree Woodland. They feed on annual grasslands and are endemic to the Mojave Desert. Indicative vegetation communities such as Creosote Bush-White Bursage Scrub (*Larrea tridentata–Ambrosia dumosa* Shrubland Alliance) and saltbush scrub (*Atriplex* spp.) do occur in the Project area where the habitat quality ranges from moderate to moderate-high at the sites where it is less rocky and there is more varied vegetation (Laabs 2006).The major threat to this species is habitat loss and fragmentation due to the development of urban, suburban, agriculture, military and other human use. There are several CNDDB records adjacent to or near the Project area. The nearest CNDDB record of the Mohave ground squirrel, from 2005, is 40 meters to the south of the Project site. Due to the timing of the January survey, the presence of Mohave ground squirrels could not be confirmed. Depending on locality, Mohave ground squirrels do not emerge from hibernation until March to June.

The majority of the Project site is potential habitat for Mohave ground squirrel, with habitat suitability ranging from low to high. (Figure 11). There were no confirmed Mohave ground squirrel observations during the April 2019 Mohave ground squirrel habitat assessment. One unidentified ground squirrel was observed in the western portion of the project. The squirrel had no apparent stripes and its tail position while moving was not over its back, which are not characteristic of the commonly observed white-tailed antelope squirrel (*Ammospermophilus leucurus*). Mohave ground squirrel has a high potential for occurrence and has a high potential to be present based on the proximity of known records and habitat quality.

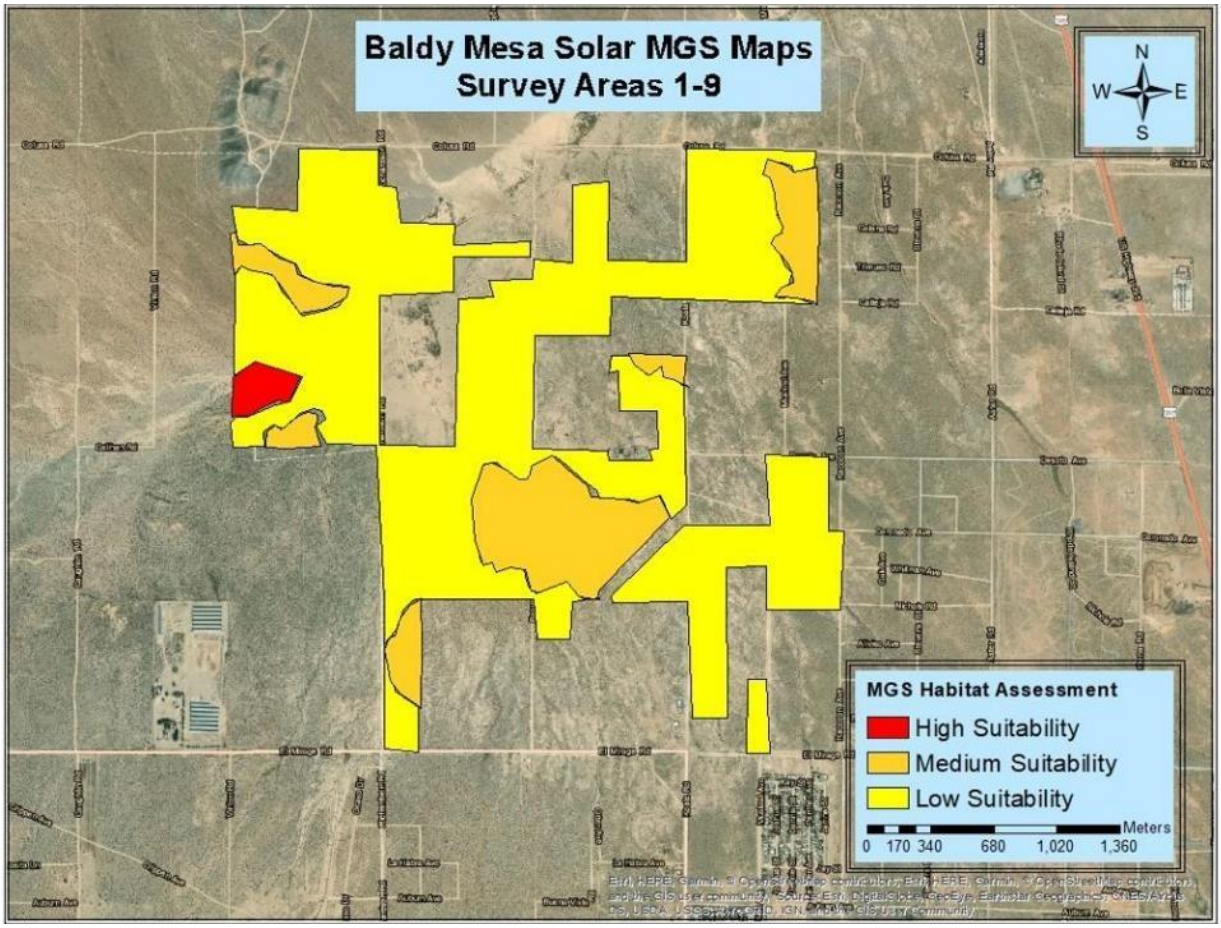

Figure 11. Mohave ground squirrel (MGS) habitat suitability.

5 POTENTIAL IMPACTS AND RECOMMENDATIONS

This section describes the anticipated direct and indirect impacts to biological resources at the proposed Project site that may result from implementation of the proposed Project. This analysis was based on the results of the biological resources surveys conducted at the site, information from literature and database resources, and the proposed Project design and layout.

Project implementation would result in the direct removal of on-site plant communities, and wildlife that depend on them for habitat. Many indirect impacts to off-site biotic resources are possible during construction (noise, dust) and after Project completion (noise, night lighting, restriction of movement). Deposition of dust on off-site vegetation communities during construction could adversely affect quality of the habitat. Additionally, artificial night lighting could adversely affect the behavior of nocturnal wildlife, and increased trash produced by Project activities could result in an increase of opportunistic predators to the area.

Under CEQA, a mitigation plan would need to be developed to avoid, minimize, and mitigate for impacts associated with the implementation of the Project. As the lead agency responsible for authorizing Project implementation, the City of Adelanto is responsible for ensuring that the measures for avoiding, minimizing, and reducing impacts are sufficient and compliant with CEQA and CESA requirements, and other applicable state, federal, and local regulations.

If impacts to certain types of sensitive biological resources (e.g., threatened or endangered species, sensitive vegetation communities) would occur, permits from the applicable regulatory agencies may be required. Pre-construction and protocol-level surveys would minimize impacts to sensitive wildlife that can be avoided or translocated off-site. Potential impacts that may result from Project implementation and recommended measures pertinent to specific resource types are discussed below.

5.1 Vegetation Communities

Permanent and temporary impacts can be anticipated as a result of construction and maintenance of the Project. Permanent direct impacts are those that would result from the clearing and grading of vegetated areas to accommodate the operation and maintenance of the Project. Temporary direct impacts to vegetation would result from construction of the Project, including excavation of trenches for the underground electrical collection; and work areas for vehicles, equipment, and machinery associated with construction outside the permanent impact footprint. The extent of permanent and temporary impacts has yet to be determined or calculated.

Joshua Tree Woodland and Mojave-Sonoran Desert Dunes are designated as sensitive natural communities by CDFW, and permanent impacts to this community type may require mitigation. For Joshua Tree Woodlands, translocation of viable individual Joshua trees to an undeveloped area may be feasible, which would be part of a restoration and revegetation plan developed for the Project. Other mitigation measures may be implemented to offset the impacts. Permanent impacts to vegetation communities that are not considered sensitive may not require mitigation.

5.2 Special Status Plants

The results of the habitat assessment determined that seven (7) species of special status plants were determined to have the potential to occur in the Project area, based on an evaluation of local occurrence records, habitat conditions, elevation, and other factors. These species include:

- Desert cymopterus
- Mojave monkeyflower
- Booth's evening-primrose
- Barstow woolly sunflower
- Sagebrush loeflingia
- Short-joint beavertail
- Beaver Dam breadroot

Joshua tree was initially assessed as a special status species for this report due to its proposed listing under the ESA at the time of the initial study. However, as of August 2019, the Joshua tree is no longer proposed for listing as threatened under the ESA and is therefore no longer considered special status as a species in this report. Impacts to Joshua trees will be reduced through implementation of mitigation requirements for Joshua tree woodlands; no additional measures are recommended here.

A focused rare plant survey consistent with CDFW and CNPS guidelines was conducted in April/May 2019 to determine the presence/absence of special status plant species. The timing of the survey coincided with the blooming season for the rare plant species with the potential to occur within the Project. Areas with the highest potential were prioritized during the rare plant surveys; including the northeastern portion of the Project, all ephemeral washes associated with the Fremont Wash basin, the dune complex identified in the southwestern portion, and areas identified as Joshua Tree Woodland.

One plant species, Beaver Dam breadroot, was found within and adjacent to the Project. The findings of the survey summarized in this report and detailed in the *Rare Plant Survey for the Baldy Mesa Solar Project* memorandum (SWCA 2019b). Rare or sensitive species were recorded using a GPS unit with sufficient accuracy for reliable relocation. The remaining special status plant species were not found during the surveys and are not anticipated to occur within the Project.

Impacts to Beaver Dam breadroot can be avoided by establishing a no-work buffer of 10 feet around each individual plant. The locations of individual plants should be determined based on the results of a rare plant survey conducted by qualified biologists within 12 months of the start of construction. Fencing or visual indicators should be used to delineate disturbance-free areas.

If avoidance is not feasible and the project would impact more than 10% of the local population of Beaver Dam breadroot, impacts may be minimized by 1) translocating individual plants to a suitable location (salvage), 2) conservation of off-site populations, and/or 3) establishment and conservation of off-site populations. If translocation or establishment of off-site populations occurs, a Beaver Dam breadroot mitigation plan should be prepared. The plan should include monitoring of translocated individuals or new plantings for at least one year to verify success.

5.3 California Desert Native Plants Act

The Project site contains Joshua trees and cactus species, impacts to which should be avoided when possible. Impacts to any plant regulated by the CDNPA (regulated plants) shall comply with regulations regarding the harvest of native desert plants. The following species were observed in the Project site and are subject to regulations under CDNPA: Joshua trees, and members of Cactaceae (*Opuntia basilaris* var. *basilaris* and *Cylindropuntia echinocarpa*). These plants may be impacted when vegetation is cleared for Project construction. Potential impacts to regulated plants will be mitigated by a combination of avoidance and a cactus relocation plan, or off-site conservation.

CDNPA-regulated plants will be flagged for avoidance and their location will be documented using a GPS with sufficient accuracy for reliable relocation. During construction, impacts to regulated plants will be avoided whenever possible. If impacts to regulated plants are unavoidable, the Project proponent

should develop a cactus relocation plan to offset impacts to Joshua trees and other protected species impacted by the implementation of the Project.

5.4 Special Status Wildlife

The results of the habitat assessment determined that 11 species of special status wildlife were determined to have the potential to occur within the Project site, based on the assessment of local occurrence records, habitat conditions, elevation, and other factors. These species include:

- Desert tortoise
- Golden eagle (foraging only)
- Burrowing owl
- Loggerhead shrike
- Pallid bat (foraging only)
- Pallid San Diego pocket mouse
- Townsend's big-eared bat (foraging only)
- Western mastiff bat (foraging only)
- Desert kit fox
- American badger
- Mohave ground squirrel

Of these, five (5) species were determined to be present based on direct observations and the presence of species-specific sign (e.g., burrows, scat). These species include: loggerhead shrike, desert tortoise, burrowing owl, desert kit fox, and American badger. One (1) species, Mohave ground squirrel, is presumed to be present based on recent records nearby and the presence of high-quality habitat, although it has not been confirmed present through trapping or positive visual identification.

5.4.1 Non-nesting Birds

Some special status birds may occur at the Project site while foraging, but do not have the potential to nest at the site. Birds that do not have the potential to nest in the Project area are not anticipated to be directly impacted by the Project. Because of their mobility, birds generally move out of harm's way and would not be injured or killed during grading, construction, or Project operations. Implementation of the Project would reduce foraging habitat for these species, and specific measures for these species are not required to avoid direct impacts.

5.4.2 Nesting Birds

Implementation of the Project has the potential to impact birds that are nesting at the Project site directly, by causing active nests to fail. The Project has suitable nesting habitat for burrowing owls, LeConte's thrasher, loggerhead shrike, and several common bird species. The Project site also has suitable nesting habitat for raptors within the Joshua Tree Woodlands and along the existing transmission line. One red-tailed hawk nest was observed in a Joshua tree just beyond the Project boundary during the desert tortoise survey. Additional raptor nests may be present during the construction of the Project.

If construction or vegetation removal activities must occur during the bird breeding season (February 1 through September 15), surveys for active nests should be conducted by a qualified biologist no more than 30 days prior to the start of construction. For raptors, a minimum no-disturbance buffer of 500 feet shall be established around active nests and demarcated with fencing or flagging. For non-raptors, a minimum no-disturbance buffer of 250 feet shall be established around active nests and demarcated with fencing or flagging. No project-related activities shall occur within the buffer zone until a qualified biologist has determined that the birds have fledged and are no long reliant on the nest or parental care for

survival. The buffer distance may be reduced, depending on the sensitivity of the species and nest location, in consultation with the CDFW.

5.4.3 Desert Tortoise

Desert tortoise sign were observed within the Project site during the January 2019 reconnaissance survey and during the April 2019 desert tortoise survey. The April survey was performed in accordance to the USFWS (2010) protocols. The results of the survey are summarized in this report and detailed in *Desert Tortoise Survey for the Baldy Mesa Solar Project* memorandum (SWCA 2019c).

Suitable habitat for desert tortoise is present throughout the entirety of the Project site, especially in the northern and western portions where the Fremont Wash is located. The Project site contains the appropriate vegetation composition, soils, and topography to support desert tortoises, and is located within the species' geographic range. The majority of the gen-tie routes were found to be unsuitable habitat for desert tortoise due to being previously degraded and devoid of vegetation and due to the proximity to very low quality habitat, high speed roadways, illegal dumping, off-road vehicle travel.

Based on the presence of desert tortoise burrows and sign, it is evident that tortoises have historically occupied the Project site. However, since no live tortoises, carcasses or recent sign were found, the present day population is likely very low or absent.

Implementation of the proposed project is estimated to result in permanent and temporary impacts to up to 1,197 acres of habitat. The habitat is degraded from its natural state by off-highway vehicle use, regional electrical transmission corridors, permanent residences, and trash dumping. Common ravens, a significant predator of juvenile tortoises, are abundant in the area, supported by both food resources provided inadvertently by humans, and increased nest sites on electrical transmission towers.

Direct impacts to desert tortoises could potentially occur as a result of habitat loss due to vegetation clearing and installation project facilities, including solar system blocks, access roads, laydown yards, and other components. Construction and maintenance of the project also could directly impact desert tortoises, killing or injuring tortoises by crushing tortoises or burrows containing tortoises or eggs. These effects would be most likely to occur when tortoises are most difficult to detect, during the initial clearing of vegetation.

Indirect impacts to desert tortoises could result from human activities that increase the prevalence of invasive plants and/or the location population of common ravens. Non-native plant seeds may be transported into the project area with equipment, especially in tire treads. Non-native vegetation often becomes established in areas where the native vegetation has been disturbed, which may occur in the project's areas of temporary impacts. The fire hazard at the project may therefore increase, and adjacent desert tortoise habitat may be further degraded by invasion of weeds. Common ravens may be encouraged at the project site by food refuse inappropriately disposed of by construction or maintenance workers, and the project infrastructure may provide additional nest sites (e.g., on the electrical transmission towers of the gen-tie route). In addition, the project fences and solar arrays would provide additional perching and roosting sites for common ravens. Increases in common ravens may lead to higher rates of raven predation on desert tortoises.

Measures tailored specifically for desert tortoise, as well as measures that would benefit multiple species of wildlife, would avoid and minimize Project impacts to desert tortoise. The following measures are recommended for the Project:

1. The project proponent should coordinate with USFWS and CDFW to determine whether incidental take permits are needed for the Project. If required, all permit conditions would be followed.
2. Prior to the onset of construction activities, the project proponent should provide a workers environmental awareness program (WEAP) training. The WEAP should be developed by a qualified biologist. Any employee responsible for the operation and maintenance (O&M) of the completed facilities should also attend the WEAP.
    a. The program should include information on the life history of the burrowing owl, desert tortoise, American badger, desert kit fox, as well as other wildlife and plant species that may be encountered during construction and operations and maintenance activities.
    b. The program should discuss each species' legal protection status, the definition of "take" under the Endangered Species Act, measures the project operator is implementing to protect the species, reporting requirements, specific measures that each worker should employ to avoid take of wildlife species, and penalties for violation of the federal ESA.
    c. The program should provide information on how and where to bring injured animals for treatment in the case any animals are injured on the project site, and how to document animal mortalities and injuries.
    d. An acknowledgement form signed by each worker indicating that environmental training has been completed will be kept on record.
    e. A sticker should be placed on worker hard hats upon the worker's successful environmental training completion. Construction workers should not be permitted to operate vehicles or equipment within the construction areas unless they have attended the training and are wearing hard hats with the required sticker.
    f. The WEAP should identify a point of contact if the species is observed on the project site.
3. The project proponent should retain a qualified biologist with demonstrated expertise with desert tortoise to monitor all construction activities and assist the project proponent in the implementation of the monitoring program. The biologist would be approved by USFWS and CDFW prior to the commencement of project activities. The biologist would be present during all activities immediately adjacent to or within habitat that supports desert tortoise.
4. The project proponent should coordinate with USFWS and CDFW to determine whether desert tortoise fencing is needed. If required, the work areas would be fenced in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The qualified approved biologist will assist in determining the boundaries of the area to be fenced in consultation with USFWS and CDFW. All workers will be advised that equipment and vehicles must remain within the fenced work areas. Installation of the fencing and any necessary surveys will be directed and/or conducted by the approved biologist in concurrence with USFWS and CDFW.
5. A qualified biologist should be on-site to survey for tortoises prior to vegetation clearance and grubbing of the Project fence line during fence installation to ensure that desert tortoises and active burrows are not impacted. Limited vegetation clearing activity, such as removal of individual Joshua trees for translocation should be permitted prior to the installation of the fencing, provided that a qualified biologist conducts a survey for tortoises and their burrows immediately in front of each motor vehicle and site(s) of vegetation clearance. In the event that tortoises or active burrows are discovered, all work will be immediately halted within a 500-foot radius of the tortoise or burrow.

6. If desert tortoises are found within an area that has been fenced to exclude the species, activities will cease within 500 feet of the tortoise(s). If permitted by USFWS and CDFW, the approved biologist may move the desert tortoise(s). If desert tortoises are found in a construction area where fencing was deemed unnecessary, work will cease until the approved biologist moves the individual(s) of the tortoise(s) leave on their own.
7. If an injured or dead tortoise is encountered during construction, or if any desert tortoise is injured or killed, all construction activities within 500 feet of the vicinity should be halted and the approved biologist immediately contacted. The biologist should have the responsibility for contacting the USFWS and the CDFW.
8. The approved biologist should remain on-site until all vegetation is cleared and, at a minimum, conduct site and fence inspections on a regular (monthly) schedule throughout construction in order to ensure that the project is in compliance with the mitigation measures.
9. The approved biologist should remain on-call throughout construction in the event a tortoise occurs on the site during construction.
10. Vehicle speed limits should not exceed 15 miles per hour (mph) during construction and operation of the project. A speed limit sign should be posted at all project site entry locations.
11. Employees and contractors should look under vehicles and equipment for the presence of wildlife prior to moving vehicles and equipment. If present, the animal should be left to move on its own or until it is removed by the approved biologist. No listed species will be handled without concurrence from USFWS and/or CDFW, as applicable.

If an Incidental Take Permit is required, a Habitat Mitigation and Monitoring Plan should be prepared that outlines all of the compensatory mitigation required for the Project; the plan may cover multiple species. The plan should identify the compensatory mitigation lands and the conservation actions proposed to ensure that they are managed to ensure the continued existence of all species covered by the plan. The plan should include the funding assurances for long-term management of the mitigation lands.

5.4.4 Mohave Ground Squirrel

A habitat assessment and visual survey for Mohave ground squirrel was conducted in April 2019 by ENVIRA (ENVIRA 2019). Habitat within the project was determined to be suitable for the species, with the highest quality habitat within the western portion of the Project. Protocol trapping has not been conducted as of October 2019, and the species has not been verified as present or absent through live-trapping or visual identification. However, nearby records and habitat suitability indicate it has a high potential to occur. If present in the Project area, Mohave ground squirrel could be impacted by the Project. Potential impacts include injury or mortality of individuals resulting from vehicle strikes, grading, and collapsing and filling of burrows.

The Project proponent should consult with CDFW to determine the need for live-trapping and/or an Incidental Take Permit. Because there are more than 180 acres of suitable habitat at the Project, the methods used for a presence/absence survey must be tailored to the Project and approved by CDFW. The presence/absence survey may use live-trapping, visual surveys, and/or camera trapping.

If it is determined in consultation with CDFW that an Incidental Take Permit is not required, the Project proponent should provide a letter describing the consultation process and wildlife agency determination, indicating that a permit is not required. The letter should also identify the CDFW point of contact and contact information.

If it is determined that an Incidental Take Permit is required, the Project proponent should obtain the permit prior to the start of construction. Off-site lands to mitigate for the loss of habitat on-site should be preserved through a deed restriction or conservation easement approved by with CDFW. The mitigation ratio should be determined in coordination with CDFW, and may range according to the relative quality of the habitat at the Project compared to the habitat quality of the mitigation lands. High quality mitigation lands would have an existing population of Mohave ground squirrels located in a pristine site and connectivity with other Mohave ground squirrel populations. For low-quality habitat at the Project and high-quality mitigation lands, the mitigation ratio may be as low as 0.5 to 1 (0.5 acres of mitigation lands per 1 acre of impacted Project habitat). For high-quality Project habitat and mitigation lands that are less than optimal, the mitigation ratio may be a high as 5 to 1 (5 acres of mitigation lands per 1 acre of impacted Project habitat).

If an Incidental Take Permit is required, a Habitat Mitigation and Monitoring Plan should be prepared that outlines all of the compensatory mitigation required for the Project; the plan may cover multiple species (such as desert tortoise) to address all of the Project's compensatory mitigation requirements. The plan should identify the compensatory mitigation lands and the conservation actions proposed to ensure that they are managed to ensure the continued existence of all species covered by the plan. The plan should include the funding assurances for long-term management of the mitigation lands.

5.4.5 Burrowing Owl

A survey for burrowing owl was completed in conjunction with the April 2019 desert tortoise survey. Several burrows with burrowing owl sign were identified, confirming the presence of the species within the Project. The results of this survey are presented in this report and in the *Desert Tortoise Survey for the Baldy Mesa* memorandum (SWCA 2019c). A qualified biologist should conduct a pre-construction survey for burrowing owls no more than 30 days prior to any ground-disturbing construction activities. The survey is recommended because habitat is suitable for the species, the presence of small rodent burrows indicates there is a food supply, and previously occupied burrows were located during the site surveys.

If burrowing owls are detected on site prior to construction, the following steps should be taken to avoid impacts. No activity should occur within 50 meters (approximately 160 feet) of occupied burrows during the non-breeding season (September 1 through January 31), or within 75 meters (approximately 250 feet) during the nesting season (February 1 through August 31). These buffers may be adjusted if the owls show tolerance of the surrounding activity, with CDFW approval. If avoidance is not feasible, passive relocation of burrowing owls during the non-nesting period may be possible following the development of a Burrowing Owl Relocation Plan approved by the City of Adelanto and CDFW.

5.4.6 Desert Kit Fox and American Badger

A pre-construction survey for desert kit fox and American Badger should be conducted prior to the start of construction/ground disturbing activities. Should potential burrows of desert kit fox or American badger be identified during the surveys, a qualified biologist will follow standard monitoring procedures to determine the occupancy status, species, and type (potential, active, natal) of burrow. If occupied dens are observed and avoidance is feasible, the following buffer distances should be established prior to construction activities:

- Desert kit fox or American badger potential den: 30 feet.
- Desert kit fox active den: 100 feet.
- Desert kit fox natal den: 500 feet.

If avoidance of the occupied dens is not possible, the following measures are recommended to avoid potential adverse effects to desert kit fox:

A. If the qualified biologist determines that potential dens are inactive, the biologist should excavate and collapse these dens with a shovel to prevent foxes from re-using them during construction.

B. If the qualified biologist determines that potential dens may be active, an on-site passive relocation program should be implemented. This program should consist of excluding foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for one week to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that badgers and foxes have stopped using active dens within the Project boundary, the dens should be excavated and collapsed with a shovel to prevent re-use during construction.

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Appendix A
Floral Compendium

Scientific Name	Common Name
GYMNOSPERMS	
EPHEDRACEAE	**EPHEDRA FAMILY**
Ephedra nevadensis	Nevada joint fir
ANGIOSPERMS (EUDICOTS)	
APIACEAE	**CARROT FAMILY**
Lomatium mohavense	Mohave wild parsley
ASTERACEAE	**SUNFLOWER FAMILY**
Acamptopappus sphaerocephalus var. *sphaerocephalus*	Rayless goldenhead
Ambrosia acanthicarpa	annual bur-sage
Ambrosia dumosa	white bursage
Ambrosia salsola	cheesebush
Artemisia spinescens	budsage
Chaenactis fremontii	Fremont pincushion
Chaenactis stevioides	desert pincushion
Chaenactis xantiana	fleshy pincushion
Ericameria cooperi	Cooper's goldenbush
Ericameria nauseosa	rubber rabbitbrush
Eriophyllum wallacei	Wallace's woolly daisy
Glyptopleura setulosa	holy dandelion
Gutierrezia sp.	snakeweed
Layia glandulosa	white layia
Leptosyne bigelovii	Bigelow coreopsis
Leptosyne californica	California coreopsis
Malacothrix coulteri	snake's-head
Malacothrix glabrata	desert dandelion
Rafinesquia neomexicana	desert chicory
Stephanomeria sp.	wire lettuce
Tetradymia axilaris	cotton thorn
Tetradymia glabrata	little leaf horsebush
Tetradymia stenolepis	Mojave cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave woodyaster
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia tessellata	Devil's lettuce
Cryptantha circumscissa var. *circumscissa*	cushion cryptantha
Cryptantha micrantha var. *micrantha*	red-root cryptantha
Cryptantha pterocarya var. *pterocarya*	winged-nut cryptantha
Nama demissa var. *demissa*	purplemat
Pectocarya linearis	pectocarya
Phacelia bicolor	twocolor phacelia

Scientific Name	Common Name
Phacelia crenulata	notch leaved phacelia
Phacelia fremontii	Fremont's phacelia
Tiquilia plicata	fanleaf crinklemat
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica tournefortii**	Sahara mustard
Caulanthus lasiophyllus	California mustard
Descurania pinata	Western tansy mustard
*Hirschfeldia incana**	shortpod mustard
Lepidium flavum	Yellow pepperweed
Lepidium fremontii	desert pepperweed
*Sisymbrium altissimum**	tumble mustard
*Sisymbrium irio**	London rocket
CACTACEAE	**CACTUS FAMILY**
Cylindropuntia echinocarpa	golden cholla
Opuntia basilaris var. *basilaris*	beavertail cactus
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Atriplex canescens	fourwing saltbush
Atriplex confertifolia	shadscale
Atriplex polycarpa	allscale saltbush
Grayia spinosa	spiny hopsage
Krascheninnikovia lanata	winterfat
*Salsola tragus**	Russian thistle
EUPHORBIACEAE	**SPURGE FAMILY**
Croton californicus	California croton
Euphorbia albomarginata	rattlesnake sandmat
Stillingia paucidentata	Mojave stillingia
FABACEAE	**LEGUME FAMILY**
Astragalus didymocarpus var. *dispermus*	dwarf white milk vetch
Astragalus layneae	Layne milkvetch
Astragalus lentiginous var. *variabilis*	freckled milk vetch
Lupinus odoratus	Mojave lupine
Pediomelum castoreum (CRPR 1B.2)	Beaver Dam breadroot
Psorothamnus arborescens var. *minutifolius*	little leaved Mojave indigo bush
GERANIACEAE	**GERANIUM FAMILY**
*Erodium cicutarium**	red stemmed filaree
LAMIACEAE	**MINT FAMILY**
Salvia columbariae	chia
LOASACEAE	**LOASA FAMILY**
Mentzelia albicaulis	small flowered blazing star
Mentzelia veatchiana	Veatch's blazingstar

Scientific Name	Common Name
MALVACEAE	**MALLOW FAMILY**
Eremalche exilis	mallow
Sphaeralcea ambigua var. *ambigua*	apricot mallow
MONTIACEAE	**MINER'S LETTUCE FAMILY**
Calyptridium monandrum	common calyptridium
NYCTAGINACEAE	**FOUR O'CLOCK FAMILY**
Abronia villosa var. *villosa*	desert sand-verbena
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Camissonia campestris ssp. *campestris*	field sun cup
Chylismia claviformis ssp. *claviformis*	browneyes
Eremothera boothii ssp. *desertorum*	Booth's desert primrose
Oenothera californica ssp. *californica*	California evening primrose
PAPAVERACEAE	**POPPY FAMILY**
Eschscholzia glyptosperma	desert gold poppy
Eschscholzia minutiflora	pygmy poppy
POLEMONIACEAE	**PHLOX FAMILY**
Eriastrum eremicum ssp. *eremicum*	desert eriastrum
Gilia cana	showy gilia
Gilia latifolia	broad flowered gilia
Ipomopsis polycladon	branching gilia
Linanthus dichotomus ssp. *dichotomus*	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
POLYGONACEAE	**BUCKWHEAT FAMILY**
Chorizanthe brevicornu var. *brevicornu*	brittle spineflower
Chorizanthe rigida	devil’s spineflower
Eriogonum baileyi var. *baileyi*	Bailey's buckwheat
Eriogonum fasciculatum ssp. *polifolium*	California buckwheat
Eriogonum gracillimum	rose-and-white buckwheat
Eriogonum inflatum	Desert trumpet
Eriogonum pusillum	yellow turbans
Rumex hymenosepalus	canaigre, wild-rhubarb
RANUNCULACEAE	**BUTTERCUP FAMILY**
Delphinium parishii ssp. *parishii*	desert larkspur
SOLANACEAE	**NIGHTSHADE FAMILY**
Lycium andersonii	Anderson’s box thorn
Lycium cooperi	Cooper’s desert thorn
ZYGOPHYLLACEAE	**CALTROP FAMILY**
Larrea tridentata	creosote bush

Scientific Name	Common Name
ANGIOSPERMS (MONOCOTS)	
AGAVACEAE	**AGAVE FAMILY**
Yucca brevifolia	Joshua tree
MELANTHIACEAE	**FALSE-HELLEBORE FAMILY**
Toxicoscordion brevibracteatum	*d*esert death camas
POACEAE	**GRASS FAMILY**
Bromus madritensis ssp. *rubens**	red brome
*Bromus tectorum**	cheat grass
*Hordeum murinum**	foxtail barley
Festuca octoflora	sixweeks grass
*Schismus barbatus**	Mediterranean grass
Stipa hymenoides	sand grass
THEMIDACEAE	**BRODIAEA FAMILY**
Dichelostemma capitatum	blue dicks

*Non-Native Species

Appendix B
Faunal Compendium

Scientific Name	Common Name
CLASS INSECTA	**INSECTS**
ACRIDIDAE	**GRASSHOPPERS**
Trimerotropis pallidipennis	Pallid-winged grasshopper
APIDAE	**BEES**
Apis melifera	Honeybee
FORFICULIDAE	**EARWIGS**
Forficula auricularia	European earwig
NYMPHALIDAE	**BRUSH-FOOTED BUTTERFLIES**
Vanessa cardui	Painted lady
SPHINGIDAE	**HAWK MOTHS AND SPHINX MOTHS**
Hyla lineata	white-lined sphinx moth
TENEBRIONIDAE	**DARKLING BEETLES**
Edrotes ventricosus	darkling beetle
Eleodes sp.	darkling beetle
MELOIDAE	**BLISTER BEETLES**
Lytta magister	desert blister beetle
CLASS REPTILIA	**REPTILES**
TESTUDINIDAE	**LAND TORTOISES**
*Gopherus agassizii**	desert tortoise
CROTOPHYTIDAE	**COLLARED AND LEOPARD LIZARDS**
Gambelia wislizenii	longnose leopard lizard
IGUANIDAE	**IGUANAS**
Dipsosaurus dorsalis	desert iguana
PHRYNOSOMATIDAE	**ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS**
Callisaurus draconoides	common zebratail lizard
Phrynosoma platyrhinos	desert horned lizard
Sceloporus uniformis	yellow-backed spiny lizard
Uta stansburiana	side-blotched lizard
XANTUSIIDAE	**NIGHT LIZARDS**
Xantusia vigilis	desert night lizard
TEIIDAE	**WHIPTAIL LIZARDS**
Aspidoscelis tigris tigris	Great Basin whiptail
COLUBRIDAE	**COLUBRID SNAKES**
Chionactis occipitalis occipitalis	Mojave shovelnose snake
Masticophis flagellum piceus	red coachwhip
Pituophis catenifer deserticola	Great Basin gopher snake

Scientific Name	Common Name
CROTALIDAE	**PIT VIPERS**
Crotalus scutulatus	Mojave rattlesnake
CLASS AVES	**BIRDS**
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**HAWKS, KITES, EAGLES**
Buteo jamaicensis	red-tailed hawk
FALCONIDAE	**FALCONS**
Falco mexicanus	prairie falcon
Falco sparverius†	American kestrel
SCOLOPACIDAE	**SANDPIPERS**
Numenius americanus	long-billed curlew
LARIDAE	**SKUAS, GULLS, TERNS, SKIMMERS**
Hydroprogne or *Thalasseus* sp.	Tern species
COLUMBIDAE	**PIGEONS & DOVES**
Columba livia†	rock pigeon
Zenaida macroura†	mourning dove
TYTONIDAE	**BARN OWLS**
*Tyto alba**	barn owl
STRIGIDAE	**TRUE OWLS**
*Athene cunicularia**	burrowing owl
TROCHILIDAE	**HUMMINGBIRDS**
Calypte costae	Costa's hummingbird
PICIDAE	**WOODPECKERS**
Picoides scalaris	ladder-backed woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**
Myiarchus cinerascens	ash-throated flycatcher
Sayornis saya†	Say's phoebe
Tyrannus verticalis	western kingbird
ALAUDIDAE	**LARKS**
Eremophila alpestris	horned lark
HIRUNDINIDAE	**SWALLOWS**
Petrochelidon pyrrhonota	cliff swallow
CORVIDAE	**JAYS & CROWS**
Corvus brachyrhynchos†	American crow
Corvus corax	common raven
TROGLODYTIDAE	**WRENS**

Scientific Name	Common Name
Campylorhynchus brunneicapillus	cactus wren
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
Mimus polyglottos	northern mockingbird
Toxostoma lecontei	LeConte's thrasher
LANIIDAE	**SHRIKES**
Lanius ludovicianus	loggerhead shrike
PARULIDAE	**WOOD WARBLERS**
Setophaga coronata	yellow-rumped warbler
ICTERIDAE	**BLACKBIRDS**
Euphagus cyanocephalus†	Brewer's blackbird
Sturnella neglecta	western meadowlark
CAPRIMULGIDAE	**NIGHTHAWKS**
Chordeiles acutipennis	lesser nighthawk
EMBERIZIDAE	**EMBERIZIDS**
Amphispiza bilineata	black-throated sparrow
Artemisiospiza nevadensis	sagebrush sparrow
Passerculus sandwichensis	savannah sparrow
Pooecetes gramineus	vesper sparrow
Spizella passerina	chipping sparrow
Zonotrichia leucophrys	white-crowned sparrow
FRINGILLIDAE	**FINCHES**
Haemorhous mexicanus†	house finch
PASSERIDAE	**OLD WORLD SPARROWS**
Passer domesticus†	house sparrow
CLASS MAMMALIA	**MAMMALS**
LEPORIDAE	**HARES & RABBITS**
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail
SCIURIDAE	**SQUIRRELS**
Ammospermophilus leucurus	white-tailed antelope squirrel
Spermophilus beecheyi†	California ground squirrel
GEOMYIDAE	**POCKET GOPHERS**
*Thomomys bottae**	Botta's pocket gopher
HETEROMYIDAE	**POCKET MICE & KANGAROO RATS**
*Dipodomys deserti**	desert kangaroo rat
*Dipodomys merriami**	Merriam's kangaroo rat
CANIDAE	**CANIDS**

Scientific Name	Common Name
Canis lupus familiaris	domestic dog
*Canis latrans**	coyote
*Vulpes macrotis arsipus**	desert kit fox
MUSTELIDAE	**WEASELS & RELATIVES**
*Taxidea taxus**	American badger
FELIDAE	**CATS**
Felis catus†	domestic cat

*Not directly observed, signs such as burrows and dens, pellets, whitewash, and scat were present

† Only observed along the proposed gen-tie routes

Appendix C
Site Photos



Photo 1. Example of Allscale Scrub vegetation community and ephemeral wash, facing northeast. Photographed on January 24, 2019.



Photo 2. Example of Creosote Bush-White Bursage scrub vegetation community, facing south. Photographed on January 22, 2019.



Photo 3. Example of sand dune habitat in the western portion of the Project, facing southwest. Photographed on January 22, 2019.



Photo 4. Example of a desert kit fox den with scat near the entrance, tire tracks are also visible. Photographed on January 22, 2019.



Photo 5. Deteriorated desert tortoise burrow (USFWS Class 3) in the western portion of the Project area. Photographed on January 22, 2019.



Photo 6. Recently occupied burrowing owl burrow showing signs including whitewash and pellets. Photographed on January 24, 2019.



Photo 7. Class 1 desert tortoise burrow. Photographed on April 25, 2019.



Photo 8. An intact, old (greater than one year old) desert tortoise scat. Photographed on April 11, 2019.



Photo 9. A recent (less than one year old) desert tortoise scat after it had been broken apart. Photographed on April 11, 2019.



Photo 10. Class 1 burrow revisited during the Gen-tie Option 5 survey. Cobwebs are visible in the entrance of the burrow. Photographed on October 16, 2019.



Photo 11. Class 1 burrow revisited during the Gen-tie Option 6 survey. Showing the partially collapsed interior of the burrow. Photographed on December 13, 2019.

Appendix B BIOLOGICAL RESOURCES

B.2 JURISDICTIONAL WATERS AND WETLANDS DELINEATION



Baldy Mesa Solar Project

Preliminary Jurisdictional Wetlands/Waters Delineation Report

January 10, 2020

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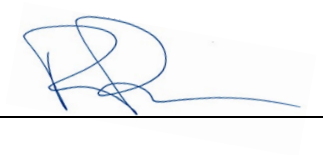
Sign-off Sheet

This document entitled Preliminary Jurisdictional Wetland/Waters Delineation Report was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of sPower – Sustainable Power Group (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 

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ABBREVIATIONS

amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
GPS	Global Positioning System
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
TNW	Traditionally Navigable Water
USACE	United States Army Corps of Engineers
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey



1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report presents the findings of an investigation of potential jurisdictional features conducted by Stantec Consulting Services Inc. (Stantec) for the Baldy Mesa Solar Project (Project) in southwest San Bernardino County, California (refer to Appendix A, Figure 1). The assessment of jurisdictional wetlands, other "waters of the U.S.," waters of the State, and California Department of Fish and Wildlife (CDFW) jurisdictional waters was conducted on January 14-16, 2019, by Stantec biologists Rocky Brown, Mayra Martinez, and Laura Butler and Aspen Environmental Group biologists Meg Schaap, Justin Wood, and Erik Waardenburg. Stantec conducted three additional follow up visits throughout 2019 to fill in data gaps resulting in minor modifications to the Project design: on June 20 by environmental scientist Patrick Meddaugh; on October 28 by biologist Rocky Brown; and from December 18-19 by biologists Logan Elms, Rocky Brown, and Sarah Toback, and environmental scientist Patrick Meddaugh. This assessment was conducted to determine the extent of resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Lahontan Regional Water Quality Control Board (LRWQCB), and CDFW that occur within approximately 100-feet of the proposed Project site (Survey Area); (refer to Appendix A, Figure 2).

1.2 PROJECT LOCATION

The bulk of the Survey Area is located in an unincorporated area of San Bernardino County immediately north of the City of Adelanto, west of U.S. Route 395. The Survey Area (a total of approximately 3,027 acres) primarily occupies the land bordered to the north and south by Colusa and El Mirage Roads, respectively, between approximately 0.5 and 3.1 miles west of the highway. It also included several potential gen-tie transmission line routes extending southward from the main Project area to an existing substation at the northeast corner of Lawson Avenue and Delicious Street (refer to Appendix A, Figure 2). The Survey Area is distributed throughout portions of Townships 29, 30, 31, 32, and 33 North, Ranges 55, 56, 57, 58, 59 and 60 East of the United States Geological Survey (USGS) Adelanto and Victorville Northwest 7.5-minute topographic quadrangles.

1.3 PROJECT DESCRIPTION

The Survey Area is proposed to be developed as a photovoltaic solar power generation facility; this report is being prepared to support the initial design and permitting portions of the Project.

2.0 EXISTING SITE CONDITIONS

2.1 TOPOGRAPHY AND SURROUNDING LAND USES

The site is relatively flat, though the majority of the Survey Area slopes gradually from southeast to northwest from approximately 2,820 to 2,750 feet above mean sea level (amsl) towards Fremont Wash, which bisects the northwestern portion of the Survey Area from southwest to northeast. The northwest corner of the Survey Area slopes from northwest to southeast from approximately 2,800 feet amsl to Fremont Wash at 2,750 feet amsl. Land uses within and surrounding

the Survey Area are limited to sparse rural residential development and open space, and few unpaved roads cross the site.

2.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

Mapping of plant communities follows the classification system described in the second edition of A Manual of California Vegetation (Sawyer et al., 2009). Species scientific and common names correspond to those described in the second edition of The Jepson Manual (Baldwin et al., 2012).

Vegetation observed during the field survey was comprised of common plant species characteristic of habitat within the Mojave Desert area of southern California. Within the Survey Area, biologists mapped eight vegetation communities and one land cover type, described below. Figure 2 (Appendix A) depicts the vegetation communities and land cover types occurring in the Survey Area and a comprehensive list of plant species observed during the survey is included in Table 2 in Section 4.1.1, below.

2.2.1 Vegetation Communities

White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance)

White Bursage Scrub is characterized by an open to intermittent canopy with an open to intermittent herbaceous layer mixed with seasonal annuals. The alliance is typically found in older washes and river terraces, alluvial fans, bajadas, rocky hills, partially stabilized, and stabilized sand fields, and upland slopes. The soils may be sandy, clay-rich, or calcareous and may have pavement surfaces. White bursage (*Ambrosia dumosa*) is dominant or co-dominant in the shrub canopy with rayless goldenhead (*Acamptopappus sphaerocephalus*), fourwing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), blackbrush (*Coleogyne ramosissima*), cholla (*Cylindropuntia* spp.), brittlebush (*Encelia farinosa*), big galleta (*Hilaria rigida*) and creosote bush. White Bursage Scrub was occasionally found in alluvial fans associated with the Fremont Wash and its drainage basin.

Fourwing Salt Bush Scrub (*Atriplex canescens* Shrubland Alliance)

Fourwing Saltbush Scrub is characterized by an open or intermittent canopy with variable layer of seasonal herbs and non-native grasses. The alliance is typically found on playas, old beaches and shores, lake deposits, dissected alluvial fans, and rolling hills. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. Fourwing saltbush is dominant or co-dominant in the shrub canopy with white bursage, cheesebush (*Ambrosia salsola*), shadscale, allscale (*Atriplex polycarpa*), spiny hopsage (*Grayia spinosa*), creosote bush, and bladderpod (*Peritoma arborea*). Fourwing Saltbush Scrub was found occasionally in the Fremont Wash drainage basin. The habitat around a major ephemeral wash found in the northeast portion of the Project area was best defined as this alliance.

Allscale Scrub (*Atriplex polycarpa* shrubland alliance)

Allscale Scrub is characterized by an open to continuous canopy with a variable herbaceous layer including seasonal annuals and nonnative grasses. The alliance is typically found in washes, playa lake beds and shores, dissected alluvial fans, rolling hills, terraces and edges or large low gradient washes. Soils may be carbonate rich, alkaline, sandy, or sandy clay loams. Allscale is dominant in the shrub canopy with white bursage, cheesebush, fourwing saltbush, red brome (*Bromus madritensis* ssp.*rubens*), small seeded spurge (*Euphorbia polycarpa*), creosote bush and bladderpod.

Allscale Scrub is the dominant salt bush community found in the Project area and characterized the Fremont Wash and its drainage basin. Many ephemeral washes found in the Project area were best defined as this alliance.

Nevada Joint Fir Scrub (*Ephedra nevadensis* shrubland alliance)

Limited to only a few locations within the northern and eastern portions of the Survey Area, Nevada Joint Fir Scrub was found within and adjacent to large ephemeral drainage features. While Nevada joint fir (*Ephedra nevadensis*) was the dominant species spiny hopsage (*Grayia spinosa*), cheesebush, Cooper's goldenbush (*Ericameria cooperi*), and California buckwheat (*Eriogonum fasciculatum*) were also present.

Creosote Bush-White Bursage Scrub (*Larrea tridentata-Ambrosia dumosa* shrubland alliance)

Creosote Bush-White Bursage scrub is characterized by an open to intermittent canopy that may be two-tiered. The herbaceous layer is open to intermittent, with seasonal annuals. The alliance is typically found in the minor washes and rills, alluvial fans, bajadas, and upland slopes. The soils may be well-drained, alluvial, colluvial, and sandy. Creosote bush and white bursage are codominant in the shrub canopy with cheesebush, shadscale, all scale, brittlebush, Nevada joint fir, California buckwheat, rhatany (*Krameria* spp.), desert pepperweed (*Lepidium fremontii*), Anderson's box thorn, sandpaper plant, Mojave indigo bush (*Psorothamnus arborescens*), desert senna (*Senna armata*), and Mojave yucca. Emergent Joshua trees may be present at low cover. Creosote Bush-White Bursage scrub was the dominant vegetation community found in the Project area and characterized the majority of the upland habitat. Approximately 661.9 acres of the Project site have been classified as Creosote Bush-White Bursage Scrub.

Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance)

Joshua tree woodland is characterized by an open to intermittent canopy with an open to intermittent shrub layer. The herbaceous layer is open to intermittent with perennial grasses and seasonal annuals. The alliance is typically found on alluvial fans, ridges, gentle to moderate slopes and the soils or coarse sands very fine silts, gravel, or sandy loams. Joshua tree is evenly distributed at greater than 1% absolute with shrubs such as white bursage, cheesebush, blackbrush, Nevada joint fir, California buckwheat, snakeweed (*Gutierrezia* spp.), creosote bush, and Anderson's box thorn. Joshua tree woodland was found intermittently in upland habitat generally surrounded by Creosote bush-white bursage scrub.

Mojave-Sonoran Desert Dunes (*Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance)

Mojave-Sonoran Desert Dunes is characterized by the presence of stabilized sand sheets and sand dunes with a sparse to intermittent layer of seasonal annuals and scattered perennials. Species composition varies across the scattered dune areas within the Mojave and Sonoran Deserts. Characteristic herbaceous plants include desert sand verbena (*Abronia villosa*), browneyes (*Chylismia claviformis*), Cryptantha (*Cryptantha* spp.), desert dicoria (*Dicoria canescens*), Russian thistle (*Salsola tragus*), sand rice grass (*Stipa hymenoides*) and Mediterranean grass (*Schismus barbata*). Emergent shrubs present at low cover include white bursage, allscale and creosote bush. Mojave-Sonoran Desert Dunes was found only in the southwest portion of the Project area and was characterized as disturbed due to the prevalence of Russian thistle and other non-native forbs and grasses.

Red Brome or Mediterranean Grass Grasslands (*Bromus rubens - Schismus [arabicus, barbatus]* Herbaceous Semi-Natural Alliance)

Red Brome or Mediterranean Grass Grasslands primarily consists of non-native grasses from the Mediterranean region such as red brome (*Bromus madritensis ssp. rubens*) and Mediterranean grass (*Schismus barbatus*). Red Brome or Mediterranean Grass Grasslands are typically found in disturbed and non-disturbed habitats along roadsides, railroads, and cultivated fields. It is highly invasive and widely distributed in the western United States and provides a source of fuel for wildfires. In the project, Red Brome or Mediterranean Grass Grasslands were dominated mostly by Mediterranean grass with patches of red brome and stands were found only along portions of the Gen-tie routes in disturbed areas. Other common emergent species present included cheatgrass (*Bromus tectorum*), turkey mullein (*Croton setigerus*) and annual bursage (*Ambrosia acanthicarpa*).

2.2.2 Land Cover Types

Disturbed/Developed

This land cover type is not a vegetation community, but rather a descriptor for areas mostly devoid of vegetation due to anthropogenic activities, and which have little to no potential to support native species. Disturbed/developed areas may include roads, buildings, and parking lots. At the Project many unimproved roads, the gen-tie corridors, and clearings with minimal vegetation were mapped as disturbed/developed.

2.3 CLIMATE

This region experiences a high desert climate, meaning there is little rainfall during the year and extreme temperature fluctuations during the winter and summer months. Average annual temperatures range from 45.7 degrees Fahrenheit in December to 78.9 degrees Fahrenheit in July, and average annual precipitation measures 6.18 inches (US Climate Data, 2019).

2.4 HYDROLOGY AND GEOMORPHOLOGY

The Survey Area is located within the Mojave River Groundwater Basin. It is approximately 1,400 square miles in size and extends from the San Bernardino and the San Gabriel Mountains to the south to the dry Harper and Coyote Lakes in the north. This groundwater basin shares its southeastern boundary with the Morongo groundwater basin and is bounded by Antelope Valley to the west. The main source of the groundwater recharge is intermittent stream flow from the Mojave River into the groundwater basin. This typically occurs between the months of January and March and sporadically from releases of imported water from the California State Water Project. The Mojave River Groundwater Basin has received California State Water Project water at the Rock Springs recharge site southeast of Hesperia since 1994, at the Hodge recharge site since 1999, at the Lenwood recharge site since 1999, at the Yermo/Daggett recharge site since 2003, and the Newberry Springs recharge site since March 2006. [USGS, 2017]

The Survey Area is bisected by the ephemeral Fremont Wash, which flows towards the northeast and joins the Mojave River near the community of Helendale approximately 11 miles to the northwest of the Survey Area. Many of the drainage features within the southern, central, and eastern portions of the Survey Area are tributaries to Fremont Wash.

2.5 GEOLOGY

The Mojave River Valley basin is generally defined by the contact between the water-bearing unconsolidated deposits and the underlying non-water-bearing consolidated igneous and metamorphic rocks which surround the area. This groundwater system consists of two interconnected unconfined aquifers, a floodplain aquifer and an underlying and surrounding regional aquifer, which are part of the Basin and Range aquifers in southern California. The floodplain aquifer is the most productive, composed of permeable young river deposits of Holocene age and older river deposits of Pleistocene age. This aquifer is approximately 200 feet thick and yields most of the groundwater pumped from the Mojave River Basin. The regional aquifer is the most widespread aquifer in the area, which is composed of unconsolidated older alluvium and fan deposits of Pleistocene to Tertiary age. This aquifer is approximately 1,000 feet thick [USGS, 2017].

2.6 SOILS

Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service (NRCS) were used to investigate the soil types that have been historically mapped within the Survey Area, including hydric soils that may occur (refer to Appendix A, Figure 3). Soils predicted to be within the Survey Area are dominated by loamy sands, which matched conditions observed in the field. Table 1, below, summarizes the soils mapped within the Survey Area.

Table 1 Historic Soil Units Occurring within the Survey Area

Map Unit Symbol	Map Unit Name	Description	Acres Within Survey Area
105	Bryman loamy fine sand, 0 to 2 percent slopes	A well-drained soil that is associated with fan remnants from 2,800-3,200 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-9 inches), sandy loam (9-12 inches), sandy clay loam (12-32 inches), sandy loam (32-46 inches), and loamy sand (46-99 inches).	126.45
106	Bryman loamy fine sand, 2 to 5 percent slopes	A well-drained soil that is associated with fan remnants from 3,000-3,400 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-9 inches); sandy clay loam (9-43 inches); sandy loam (43-60 inches).	24.45
112	Cajon sand, 0 to 2 percent slopes	A somewhat excessively drained soil that is associated with alluvial fans from 1,800-3,200 feet in elevation; parent material is not defined; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-9 inches); sandy clay loam (9-43 inches); sandy loam (43-60 inches).	298.09
113	Cajon sand, 2 to 9 percent slopes	A somewhat excessively drained soil that is associated with alluvial fans from 1,800-3,500 feet in elevation; parent material is alluvium derived from mixed sources; very low runoff; depth to water table is more than 80 inches; sand (0-25 inches); gravelly sand, stratified gravelly sand to sand (25-60 inches).	11.07

Map Unit Symbol	Map Unit Name	Description	Acres Within Survey Area
133	Helendale-Bryman loamy sand, 2 to 5 percent slopes	A well-drained soil that is associated with fan remnants from 2,500-4,000 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy sand (0-6 inches); sandy loam (6-66 inches); loamy sand, sandy loam (66-99 inches).	728.27
139	Kimberlina gravelly sandy loam, cool, 2 to 5 percent slopes	A well-drained soil that is associated with fan aprons from 250-3,500 feet in elevation; parent material is alluvium derived from mixed sources; no runoff; depth to water table is more than 80 inches; gravelly sandy loam (0-7 inches); gravelly sandy loam, gravelly fine sandy loam (7-60 inches).	148.47
140	Lavic loamy fine sand	A moderately well-drained soil that is associated with fan aprons and fan skirts from 2,800-3,100 feet in elevation; parent material is alluvium derived from granite sources; no runoff; depth to water table is more than 80 inches; loamy fine sand (0-10 inches); loamy sand, loamy fine sand, loam, sandy loam (10-20 inches).	381.49
144	Manet coarse sand, 2 to 5 percent slopes	A well-drained soil that is associated with fan aprons; parent material is alluvium derived from mixed sources; no runoff; depth to water table is more than 80 inches; coarse sand (0-3 inches); stratified sand to loamy sand (3-42 inches); fine sandy loam, loamy fine sand (42-60 inches).	9.02
159	Roadmond loam, saline-alkali	A well-drained soil that is associated with fan skirts; parent material is alluvium derived from granite; no runoff; depth to water table is more than 80 inches; loam (0-5 inches); stratified loam to silty clay loam (5-44 inches); stratified loamy coarse sand to loamy fine sand (44-60 inches).	75.76
166	Trigger-rock outcrop complex, 30 to 50 percent slopes	A well-drained soil that is associated with mountains; parent material is residuum weathered from calcareous conglomerate; no runoff; depth to water table is more than 80 inches; gravelly sandy loam (0-12 inches).	0.00*
* Area too small for rounding – actual acreage is 0.0016			

3.0 REGULATORY BACKGROUND

The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA); the CDFW regulates activities under California Fish and Game Code Sections 1600-1607; and the LRWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Refer to Appendix E for additional details on regulatory authorities and background.

4.0 WATERS/WETLANDS DELINEATION

4.1 DELINEATION METHODOLOGY

This section describes the methods employed by the survey team during the January 2019 delineation to determine potentially jurisdictional wetlands and/or waters that occur within the Survey Area. Prior to conducting the field assessment, Stantec reviewed current and historic aerial photographs, detailed topographic maps, and soil maps of the Survey Area (USDA, 2018), the National Wetlands Inventory (USFWS, 2018), and local and state hydric soil lists (NRCS, 2018a and 2018b) to evaluate the potential jurisdictional features that may occur in the Survey Area. During the field assessment, hydrophytic vegetation and hydrologic features were mapped over recent aerial photograph base maps using the tablets with sub-meter accuracy (refer to Appendix A, Figure 4). Mapping was further refined in the office using aerial photograph base maps with an approximate accuracy of one foot, and the total jurisdictional area for each regulatory jurisdiction was calculated.

Federal Wetlands/Waters

Jurisdictional non-wetland "waters of the U.S." (WOTUS) were delineated based on the limits of the ordinary high water mark (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. Where present, jurisdictional wetlands are delineated using a routine determination in accordance with the methods outlined in the USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Arid West Supplement (Environmental Laboratory, 2011). The determination of whether an area may be considered a federally jurisdictional wetland is based on the presence of three parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. See Tables 1 and 2 in Appendix D (Potential Geomorphic and Vegetative Indicators of Ordinary High-Water Marks for the Arid West) for a list of key physical features used to determine the OHWM identified by the Arid West Manual.

Waters of the State

The California Porter-Cologne Water Quality Control Act gives the Regional Boards very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters, in which a beneficial use (as defined in the appropriate Basin Plan) may be impacted by proposed activities. The Regional Boards share the Corps' methodology for delineating the limits of jurisdiction based on the identification of an OHWM and utilizing the three-parameter approach for wetlands. There are numerous features within the Survey Area that exhibit an OHWM but lack connectivity to a known or potentially jurisdictional WOTUS. It was determined, after a review of the Water Quality Control Plan for the Lahonton Region (Basin Plan), that none of the beneficial uses identified in the plan were present within the Survey Area. Therefore, it is assumed that the LRWQCB will not assert jurisdiction over features within the Survey Area that are not identified as WOTUS. This determination will require confirmation from the LRWQCB.

CDFW Jurisdictional Waters

CDFW jurisdiction was delineated to the top of the banks of the channel and/or to the edge of contiguous riparian canopy/riparian habitat. Within portions of the Survey Area, the CDFW jurisdictional boundary mirrors the OHWM;

however, for the most part the tops of the banks extend beyond the OHWM. Therefore, the total acreage of CDFW jurisdictional waters within the Survey Area is greater than the acreage of federal jurisdictional waters.

CDFW MESA Waters

CDFW jurisdictional limits were also delineated using the methods outlined in the MESA Field Guide (Vyverberg and Roland, 2013), which was developed to provide guidance on the methods utilized to describe and delineate episodic streams within the inland deserts region of southern California.

Infrequent but generally intense precipitation combined with the cumulative effects of highly variable topography, low vegetation cover, and high evaporation and transmission losses create stream systems that respond more rapidly to rainfall, have greater variations in flow between runoff events, and shorter duration flows than their temperate-region counterparts. Although streams of all types occur in the drylands of California, ephemeral streams – those that flow only during and shortly after precipitation are most common. [Vyverberg and Roland, 2013]

4.1.1 Wetland Vegetation

In areas where wetland presence is suspected, vegetation percent cover is visually estimated for plant species in each of the four strata (tree, sapling/shrub, herb, and woody vine), and species in each stratum are ranked based on canopy dominance (USACE, 2016). Species with a total percent cover of at least 50 percent and species with 20 percent coverage within each stratum are recorded on the Field Data Sheets (50/20 Rule). Wetland indicator status was assigned to all species observed within the Survey Area using the USACE Arid West Regional Wetland Plant List (2016); the California subregion of the National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary (USFWS, 1997); and Wetland Plants of Specialized Habitats in the Arid West (USACE 2007). If greater than 50 percent of the dominant species from all strata are Obligate (OBL), Facultative-Wetland (FACW), or Facultative (FAC) species, the criteria for wetland vegetation is considered to be met (refer to Appendix D, Table 3). Plants observed within the Survey Area are listed below in Table 2, along with their wetland indicator statuses.

Table 2 Plant Species Observed within the Survey Area and their Wetland Indicator Status

Scientific Name	Common Name	Wetland Indicator Status*
Acamptopappus sphaerocephalus	goldenhead	UPL
Ambrosia acanthicarpa	annual burweed	UPL
Ambrosia dumosa	white bursage	UPL
Ambrosia salsola	burrobush	UPL
Amsinckia tessellata	devil's lettuce	UPL
Atriplex canescens var. *canescens*	fourwing saltbush	UPL
Atriplex confertifolia	spiny saltbush	UPL
Atriplex polycarpa	Cattle spinach	FACU
Caulanthus lasiophyllus	California mustard	UPL
Chorizanthe rigida	rigid spiny herb	UPL
Chylismia claviformis	clavate fruited primrose	UPL

Scientific Name	Common Name	Wetland Indicator Status*
Cryptantha similis	cushion cryptantha	UPL
Cylindropuntia echinocarpa	silver cholla	UPL
Descurainia pinnata	yellow tansy mustard	UPL
Ephedra californica	desert tea	UPL
Ephedra nevadensis	Nevada ephedra	UPL
Eremothera boothii	Booth's sun cup	UPL
Eriastrum eremicum	desert woollystar	UPL
Ericameria nauseosa	rubber rabbitbrush	UPL
Eriogonum fasciculatum	California buckwheat	UPL
Eriogonum gracillimum	rose and white buckwheat	UPL
*Erodium cicutarium***	coastal Heron's bill	UPL
Gutierrezia californica	matchweed	UPL
Krascheninnikovia lanata	winter fat	UPL
Larrea tridentata	creosote bush	UPL
Lycium cooperi	Cooper's box thorn	UPL
Mentzelia veatchiana	Veatch's blazing star	UPL
Psorothamnus polydenius	dotted dalea	UPL
*Salsola gobicola***	barbwire Russian thistle	UPL
*Salsola tragus***	Russian thistle	FACU
*Schismus arabicus***	Arabian schismus	UPL
Senecio flaccidus var. *monoensis*	mono groundsel	UPL
Senna armata	desert senna	UPL
*Sisymbrium altissimum***	tumble mustard	FACU
Stipa hymenoides	Indian rice grass	UPL
Streptanthella longirostris	Long beaked twist flower	UPL
Tetradymia axillaris var. *longispina*	catclaw horsebrush	UPL
Xylorhiza tortifolia	Mojave woody aster	UPL
Yucca brevifolia	Joshua tree	UPL

* Wetland Indicator Status codes are defined in Appendix D
** Non-native/invasive species

4.1.2 Wetland Hydrology

Where applicable, the presence of wetland hydrology was evaluated by recording the extent of observed primary and secondary indicators, as listed in Tables 4 and 5 of Attachment 4 (Environmental Laboratory, 2011). Wetland hydrology indicators are divided into two categories (primary and secondary indicators) and the presence of one primary indicator from any of the groups is considered evidence of wetland hydrology. If only secondary indicators are present, two or more must be observed to conclude the presence of wetland hydrology. Indicators are intended to be one-time

observations of site conditions representing evidence of wetland hydrology when hydrophytic vegetation and hydric soils are present (Environmental Laboratory, 2011).

4.1.3 Wetland Soils

Soils data from the NRCS was referenced to determine if hydric soils have been previously documented and/or historically occurred in or near either Survey Area. Based on this review, hydric soils were not expected to occur within either the Survey Area. Appendix D, Tables 6 and 7, includes a complete list of hydric soils indicators, and based on the review of this list, and conditions in the field, no wetland soils are anticipated to occur or were observed within the Survey Area.

5.0 RESULTS

Based on the data collected in the field, two types of jurisdictional features occur within the Survey Area: USACE non-wetland WOTUS and CDFW jurisdictional waters, as summarized in Table 3 and Figure 4 (refer to Appendix A). According to the NRCS Hydric Soils List, no hydric soil associations have historically occurred within the Survey Area (refer to Section 2.6 above). Vegetation throughout the Survey Area did not satisfy the 50/20 Rule required to meet the hydrophytic vegetation threshold; therefore, the wetland vegetation criteria were not met. Primary and/or secondary indicators of wetland hydrology were not observed within the Survey Area. Due to the lack of a dominance of hydrophytic vegetation and wetland hydrology indicators within the Survey Area no soil test pits were excavated as part of the delineation effort.

With the exception of Freemont Wash (Drainages 19 and 20 [Refer to Figure 4, Appendix A]), none of the features mapped within the Survey Area by the National Wetlands Inventory (NWI) are classified as wetland habitat (data dated October 2018). Portions of the Survey Area within Freemont Wash were classified as Palustrine Emergent Wetlands however, the current site conditions did not meet the requirements of this classification; this is discussed further below in section 5.1.2. All other mapped features from the NWI, within the Survey Area, were mapped using the same Cowardin Type as presented in Table 3 below. Representative photos of potentially jurisdictional features are provided in Appendix B; maps showing the location of each photograph are available in Appendix A (Figure 5).

Table 3 Acreage of Potential Jurisdictional Waters and Wetlands within the Survey Area

Survey Area	USACE Non-Wetland Waters of the U.S. (acres)	CDFW Jurisdictional Waters (acres)	CDFW MESA Waters (acres)	Cowardin Type (does not apply to MESA Waters)
Solar Project Site	1.21	12.08	121.01	R4SBJ*
Gen-Tie Options	--	4.49	1.29	R4SBJ*
Totals	1.21	16.57	122.30	--

***Cowardin Definitions**

R = System **Riverine**: The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing

ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

4 = Subsystem **Intermittent**: This Subsystem includes channels that contain flowing water only part of the year. When the water is not flowing, it may remain in isolated pools or surface water may be absent.

SB = Class **Streambed**: Includes all wetlands contained within the Intermittent Subsystem of the Riverine System and all channels of the Estuarine System or of the Tidal Subsystem of the Riverine System that are completely dewatered at low tide.

J = Water Regime **Intermittently Flooded**: The substrate is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or even years may intervene between periods of inundation. The dominant plant communities under this Water Regime may change as soil moisture conditions change. Some areas exhibiting this Water Regime do not fall within our definition of wetland because they do not have hydric soils or support hydrophytes. This Water Regime is generally limited to the arid West.

5.1.1 Federal Non-Wetlands Waters

Based on Stantec's professional opinion following an assessment of local and regional hydrology and the limits of the OHWM, there are approximately 1.21 acres (wholly within the Solar Project Site) of federal non-wetland WOTUS within the Survey Area; no WOTUS were mapped within the Gen-Tie Options. A review of aerial photography demonstrates that much of the Survey Area is or has historically been fluvially active, with flow patterns visible generally trending towards Fremont Wash, which bisects the northwest portion of the Survey Area and flows to the northeast where it ultimately joins the Mojave River. As is characteristic of dryland stream systems throughout the desert regions of California, flows in many areas of the Survey Area decrease rapidly downstream due to evaporation and seepage of surface flow into the unconsolidated sediment of channel bed and banks (Vyverberg and Roland, 2013). This result of this hydrologic regime is that many of the low-order tributaries observed within the Survey Area were highly transitory, with well-defined channels becoming lost as they move down-gradient, or, conversely, sheet flows coalescing abruptly into a swale or incised channel. In such cases, federal jurisdiction was generally determined where confined flow could be determined.

Sections largely located in the northwestern, western, and southern portions of the Survey Area, while exhibiting evidence of an OHWM, lack connectivity to a known or potentially jurisdictional WOTUS; refer to Figure 4 (Appendix A). In the northwestern corner of the Survey Area, drainages generally flow from the west to the east, terminating at Richardson Road (this road runs in a north/south direction. Several mapped features in the western and southern portions of the Survey Area, while exhibiting an OHWM, were found to flow to a point and then lose evidence of an OHWM (e.g., defined channel ends resulting in dispersal or sheet flow of water). These features therefore lacked connectivity to a known WOTUS or potentially jurisdictional WOTUS. Appendix G provides a full inventory of all non-wetland WOTUS mapped within the Survey Area.

5.1.2 Federal Wetlands

Based on Stantec's professional opinion following an assessment of hydrology, vegetation, and soils, no portion of the Survey Area satisfies the criteria to be considered federal wetlands (Environmental Laboratory, 1987 and 2008). Portions of Freemont Wash (Drainages 19 and 20 [Refer to Figure 4, Appendix A]) were mapped in the NWI as Palustrine Emergent Wetlands. However, current site conditions to not support this classification. Within this area there was no dominance of hydrophytic vegetation nor were there primary or more than two secondary indicators of hydrology present; therefore, no soil test pits were excavated. While this area receives intermittent flows from the surrounding watershed there was no evidence of prolonged ponding or presence of water within the Survey Area.

5.1.3 CDFW Jurisdictional Waters

Based on Stantec's professional opinion following an assessment of hydrology, the presence of bed and bank, and the extent of desert wash associated vegetation, a total of approximately 16.57 acres (12.08 acres within the Solar Project Site and 4.49 acres within the Gen-Tie Options) of CDFW jurisdictional waters occur within the Survey Area. These areas were typical of intermittent desert washes found within the general region. Evidence of sediment deposition and substrate gradation were visible within many of the larger drainage features. Appendix G provides a full inventory of all CDFW jurisdictional waters mapped within the Survey Area.

5.1.4 CDFW MESA Waters

Based on Stantec's professional opinion and using the application of the CDFW MESA guidelines, which serves to recognize dryland episodic stream forms and processes, a total of approximately 122.30 acres (121.01 within the Solar Project Site and 1.29 acres within the Gen-Tie Options) of CDFW MESA waters occur within the Survey Area. These guidelines note the following:

> *A stream or watercourse is not defined by particular flow events, such as bankfull flow or ordinary high water, but rather by the local topography or elevations of land that confine a stream to a definite course when its waters rise to their highest level. Thus, the watercourse is a stream, and its boundaries define the maximal extent or expression of a stream on the landscape.*

Within areas mapped as MESA waters within the survey area there were a distinct lack of discernable bed and bank. These areas were generally flat with varying levels of shrub densities; many of these areas had greater shrub densities than adjacent upland areas which is an indication of the presence of a more significant hydric regime. Within the area mapped as MESA-10 (refer to Figure 4 in Appendix A and the inventory in Appendix G for additional information on all mapped MESA Waters) there were ridge-like accumulations of sand/gravel over large areas indicative of hydrologic flow patterns. In-between these areas were large areas that showed evidence of large sheet flow events (e.g., fine sediment deposition and wrack lines). Within the northwestern portions of the Survey Areas distinct channels lose the defined nature of a bed and bank and become what can be described as large floodplains with flows trending east and south towards Fremont Wash. These large areas with ill-defined channels (if any definition at all) are essential to overall stream and ecosystem function. CDFW MESA waters mapped within the central and southern portions of the Survey Area were generally observed to be open areas, will no meaningful bank structure, and greater densities of shrubs compared to adjacent habitats. Most of these areas were associated with CDFW jurisdictional waters that did have a discernable bed/bank. Refer to Figure 4 (Appendix A) for the location of all mapped CDFW MESA waters. Appendix G provides a full inventory of all CDFW MESA waters mapped within the Survey Area.

6.0 SUMMARY AND CONCLUSIONS

The Survey Area contains USACE non-wetland WOTUS, CDFW jurisdictional waters, and CDFW MESA waters. No portion of the Survey Area meets at the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils) and no surface water was present during the survey event.

- Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, there is approximately 1.21 acres (contained wholly within the Solar Project Site) of non-wetland WOTUS present within the Survey Area.
- Following an assessment of hydrology, the presence of bed and bank, and the extent of desert wash associated vegetation, a total of approximately 16.57 acres (12.08 within the Solar Project Site and 4.49 acres within the Gen-Tie Options)
- Using the application of the CDFW MESA guidelines, which serves to recognize dryland episodic stream forms and processes, a total of approximately 122.30 acres (121.01 within the Solar Project Site and 1.29 acres within the Gen-Tie Options) of CDFW MESA waters occur within the Survey Area.

Project-related impacts to jurisdictional areas will require the Project proponent to procure regulatory permits from the USACE, CDFW, and LRWQCB. These include Clean Water Act Section 401 and 404 permits and CDFW Lake and Streambed Alteration Agreement.

The conclusions presented above represent Stantec's professional opinion based on our knowledge and experience with the applicable regulatory agencies, including their technical guidance documents and manuals. However, the USACE, CDFW, and LRWQCB have final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries. It is recommended that written concurrence from the LRWQCB be obtained as verification that features within the Survey Area do not fall under the jurisdiction of the California Porter-Cologne Water Quality Control Act.

7.0 REFERENCES

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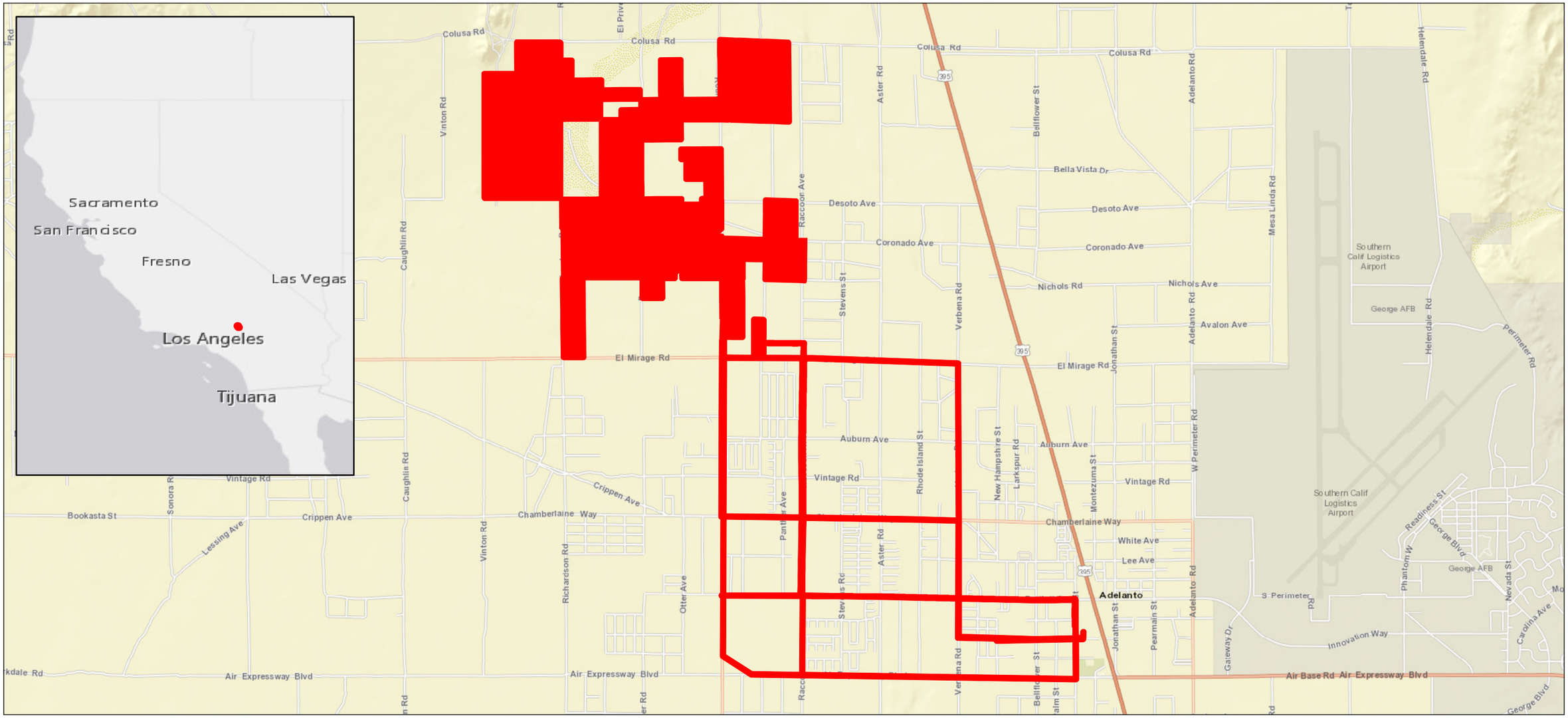
Appendix A FIGURES



Survey Area

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Stantec

Project Location	Prepared by JV on 2019-08-13 TR by RB on 2019-08-13 IR Review by MW on 2019-08-13
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

1

Title

Project Location

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Survey Area - Solar Project Site

Vegetation Communities and Land Cover Types

- Allscale Scrub
- Creosote Bush - White Bursage Scrub
- Creosote Bush Scrub
- Developed / Disturbed
- Disturbed Allscale
- Disturbed Mojave - Sonoran Desert Dunes
- Fourwing Saltbush Scrub
- Joshua Tree Woodland
- Nevada Joint Fir Scrub
- White Bursage Scrub

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Stantec

Project Location
Adelanto, CA

Prepared by JV on 2019-08-13
TR by RB on 2019-08-13
IR Review by MW on 2019-08-13

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
2-1

Title
Vegetation Communities and Land Cover Types

Survey Area - Solar Project Site

Survey Area - Gen-Tie Options

Vegetation Communities and Land Cover Types

- Allscale Scrub
- Creosote Bush - White Bursage Scrub
- Creosote Bush Scrub
- Developed / Disturbed
- Disturbed Creosote Bush - White Bursage Scrub
- Disturbed Joshua Tree Woodland
- Fourwing Saltbush Scrub
- Joshua Tree Woodland
- Nevada Joint Fir Scrub
- Red brome or Mediterranean grass grasslands
- White Bursage Scrub

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Project Location

Adelanto, CA

Prepared by JV on 2019-08-13
TR by RB on 2019-08-13
IR Review by MW on 2019-08-13

Client/Project

185804030

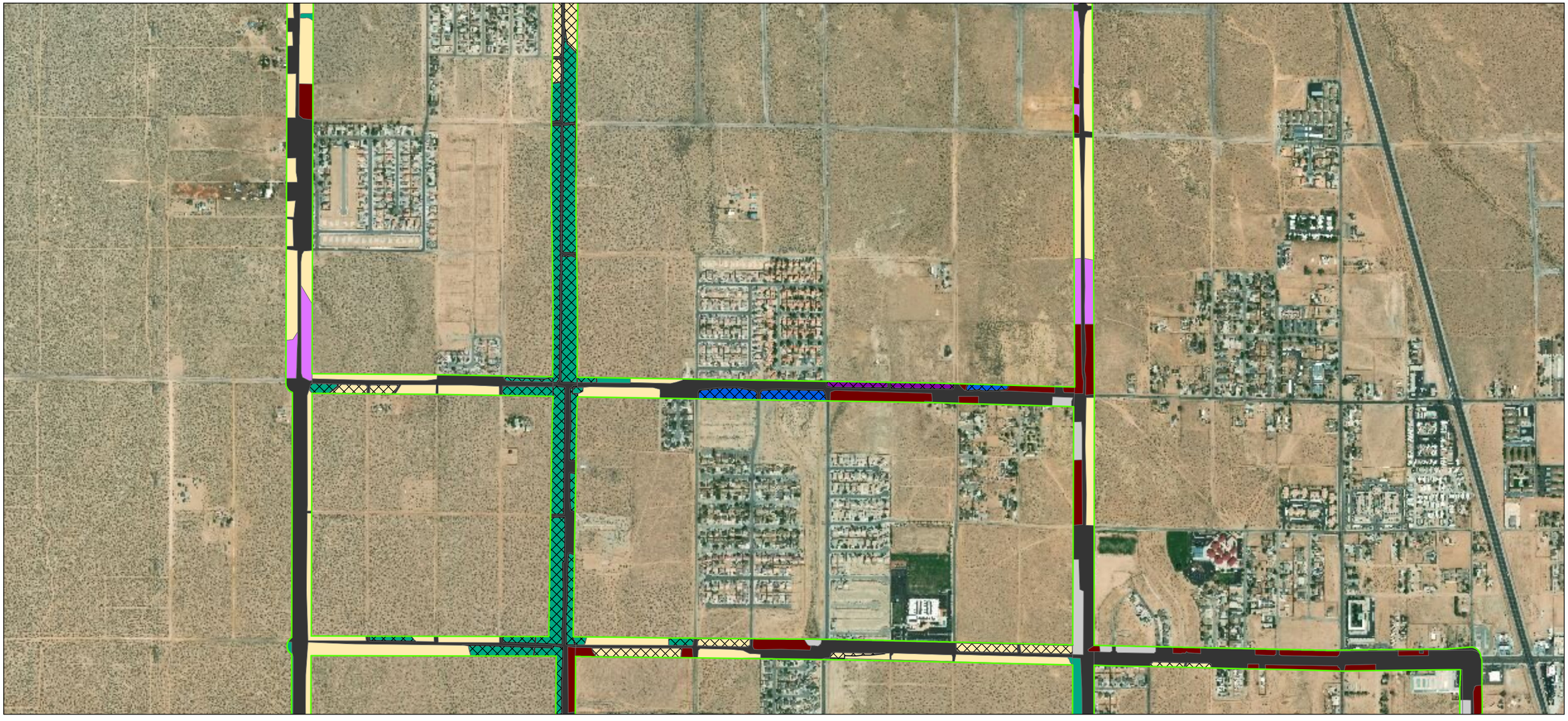
sPower - Baldy Mesa Solar Project

Figure No.

2-2

Title

Vegetation Communities and Land Cover Types



Survey Area - Gen-Tie Options

Vegetation Communities and Land Cover Types

- Creosote Bush - White Bursage Scrub
- Developed / Disturbed
- Disturbed Creosote Bush - White Bursage Scrub
- Disturbed Joshua Tree Woodland
- Joshua Tree Woodland
- Red brome or Mediterranean grass grasslands
- White Bursage Scrub
- Disturbed Allscale Scrub
- Disturbed White Bursage Scrub
- Rubber Rabbitbrush Scrub

0 1,000 2,000 Feet

(At original document size of 11x17)
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Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Project Location
Adelanto, CA

Prepared by JV on 2019-08-13
TR by RB on 2019-08-13
IR Review by MW on 2019-08-13

Client/Project
185804030

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Figure No.
2-3

Title
Vegetation Communities and Land Cover Types

Survey Area - Gen-Tie Options

Vegetation Communities and Land Cover Types

- Creosote Bush - White Bursage Scrub
- Developed / Disturbed
- Disturbed Creosote Bush - White Bursage Scrub
- Disturbed Joshua Tree Woodland
- Joshua Tree Woodland
- Red brome or Mediterranean grass grasslands
- White Bursage Scrub
- Disturbed Allscale Scrub
- Disturbed White Bursage Scrub
- Rubber Rabbitbrush Scrub

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Stantec

Project Location

Adelanto, CA

Prepared by JV on 2019-08-13
TR by RB on 2019-08-13
IR Review by MW on 2019-08-13

Client/Project

185804030

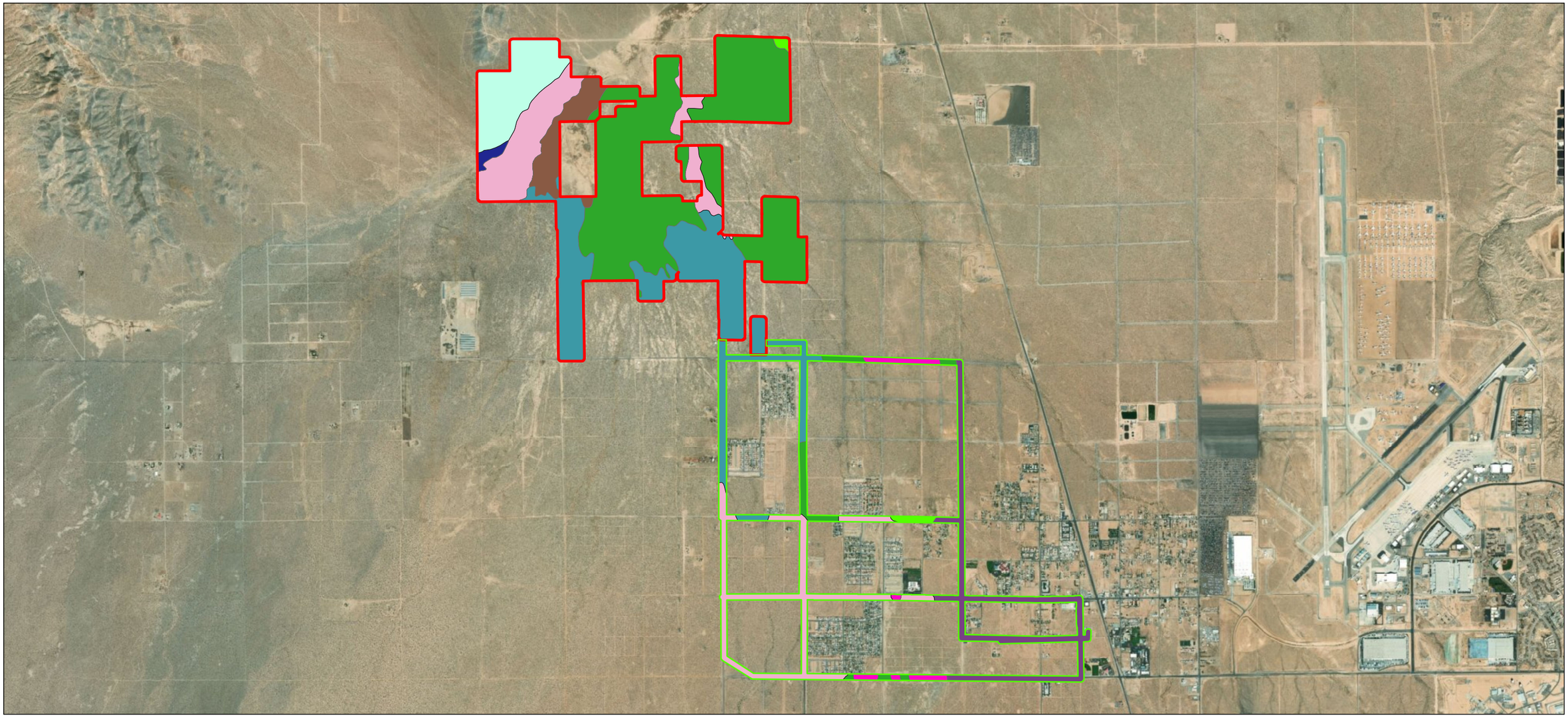
sPower - Baldy Mesa Solar Project

Figure No.

2-4

Title

Vegetation Communities and Land Cover Types



Survey Area - Gen-Tie Options

Survey Area - Solar Project Site

Map Unit Symbol	
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106	
112	
113	
133	
139	
140	
144	
159	
166	

0 780 1,560 metres

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Stantec

Project Location
Adelanto, CA

Prepared by JV on 2019-08-13
TR by RB on 2019-08-13
IR Review by MW on 2019-08-13

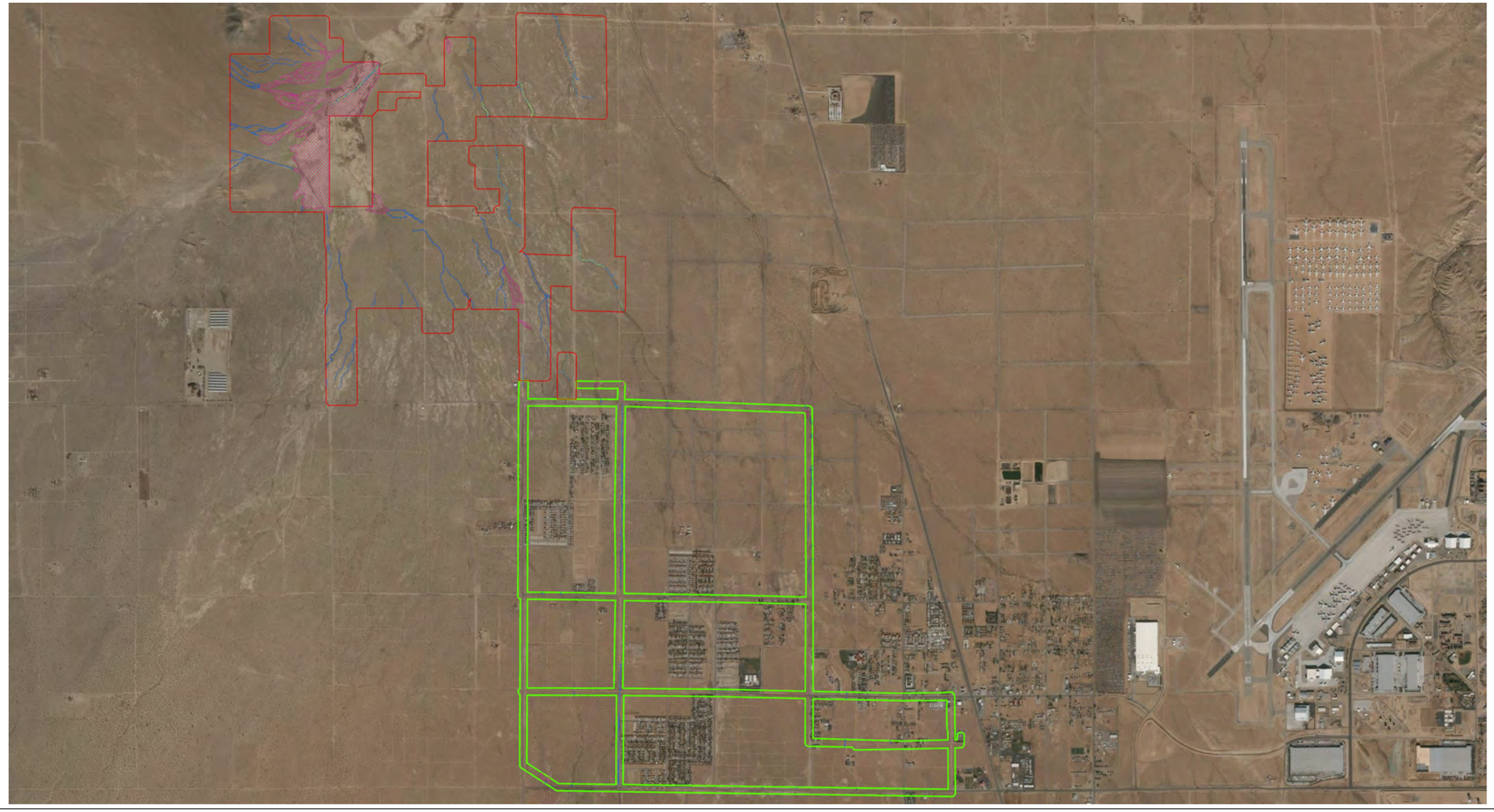
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
3

Title
Historic Soils

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
3. Detailed soil descriptions are available in Section 2.6 of the report.



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4

Title
Jurisdicitonal Features - Overview

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

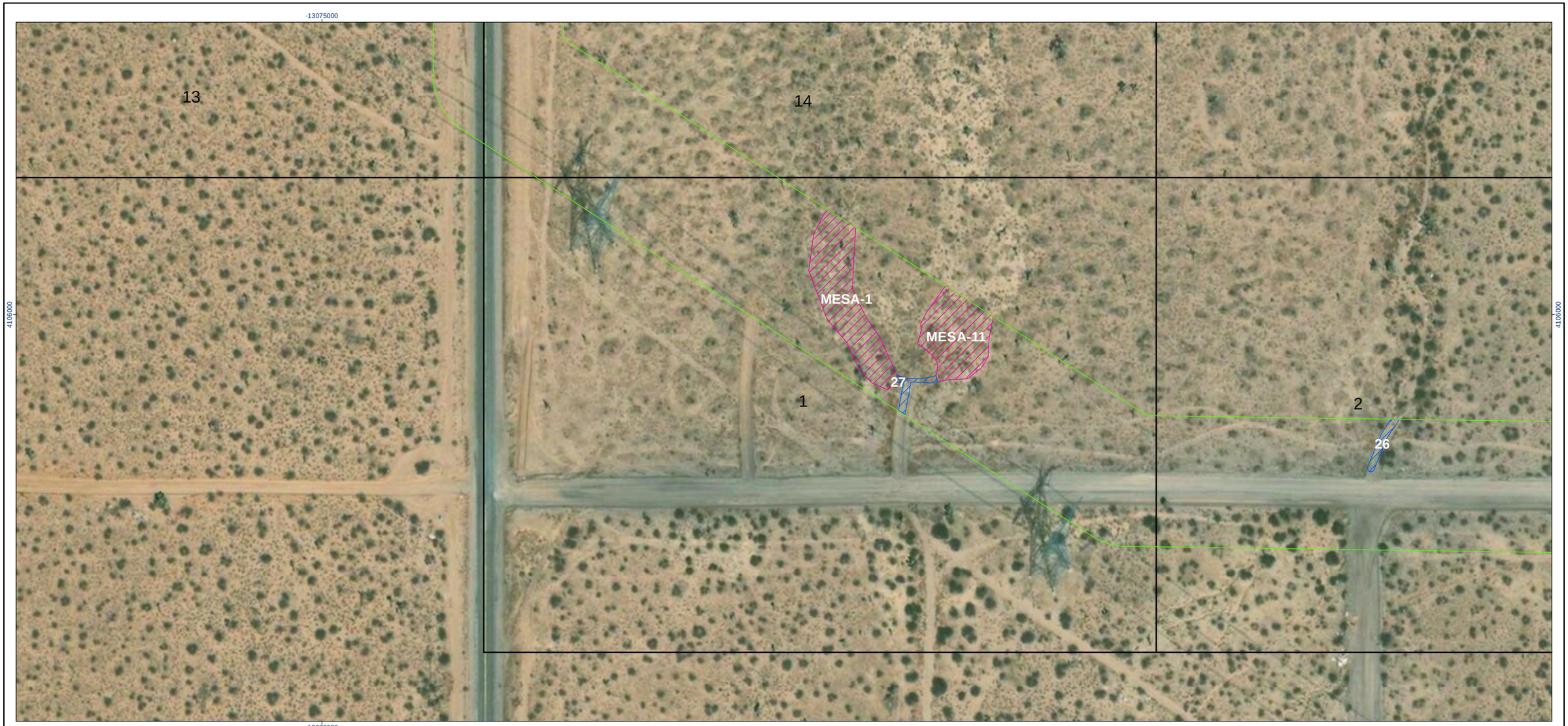
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-1

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

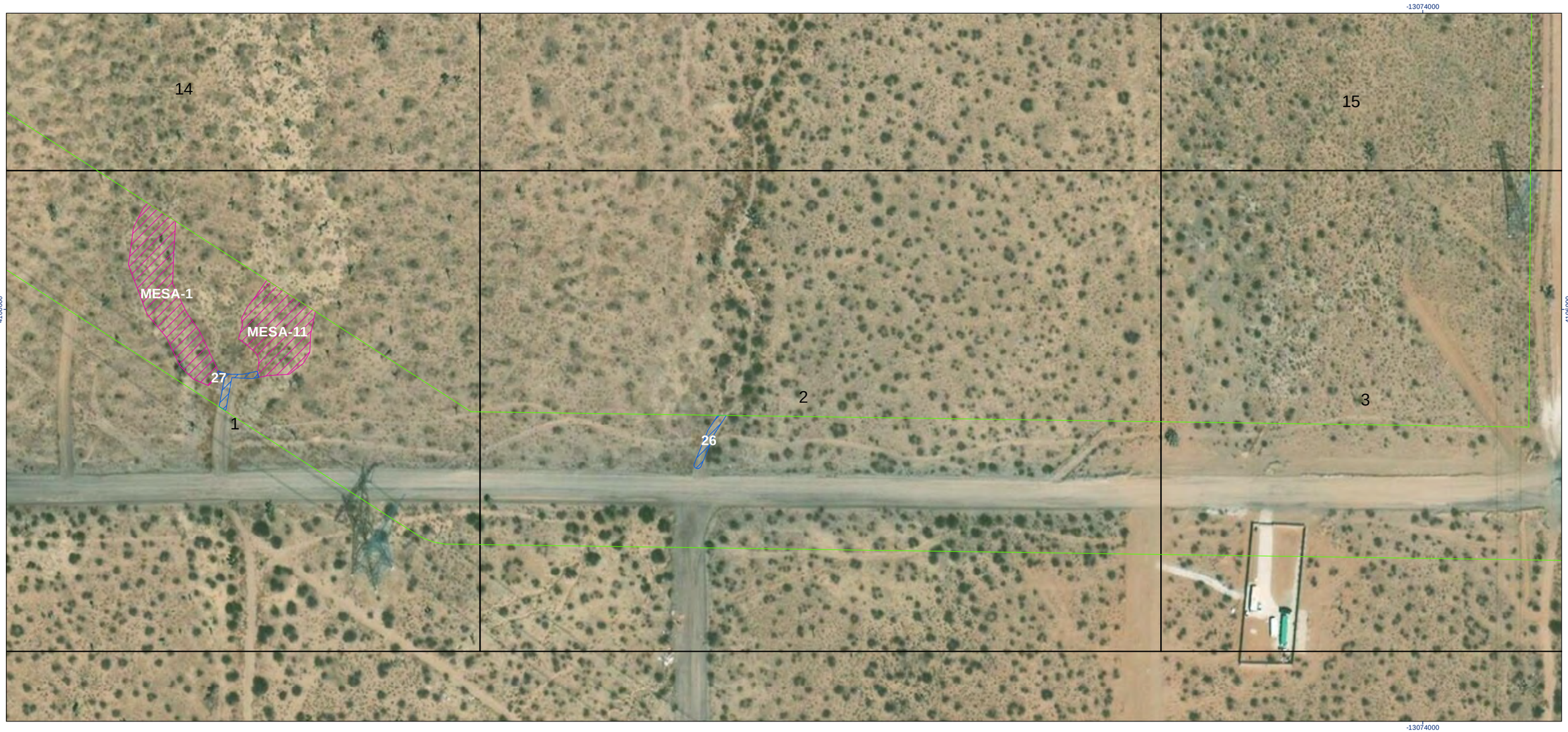
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-2

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-3

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-4

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-5

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-6

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-7

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-8

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000

4106000

16

17

7

8

9

23

22

4106000

-13072000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-9

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000

16

17

18

8

9

10

22

21

4106000

4106000

-13072000

Map Grid

Survey Area - Gen-Tie Options

Survey Area - Solar Project Site

USACE Non-Wetland Waters of the U.S.

CDFW Jurisdictional Waters

CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location

Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project

185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-10

Title

Jurisdicitonal Features



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-11

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-12

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-13

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-14

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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1:2,210

N

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Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-15

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-16

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-17

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-18

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

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Adelanto, CA

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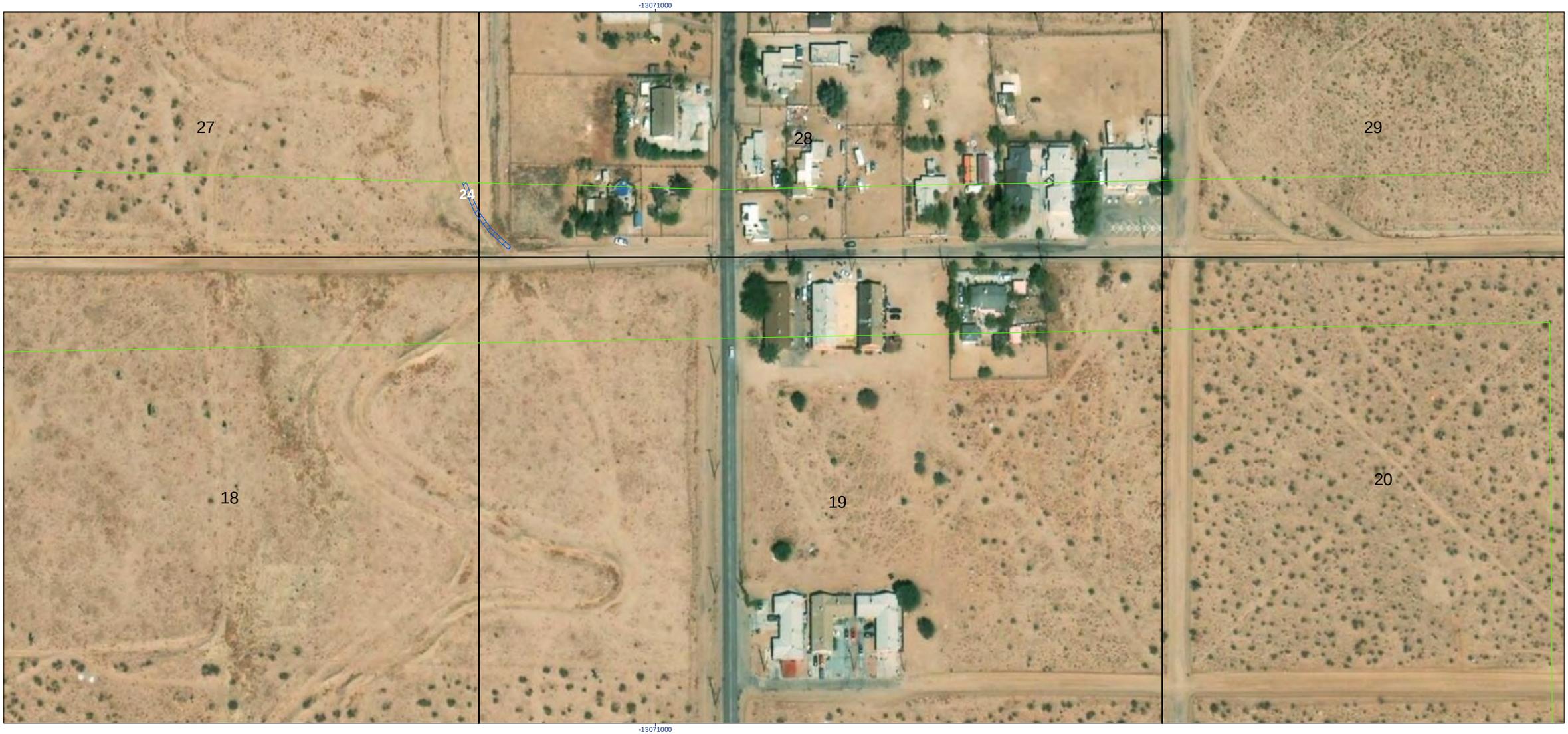
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-19

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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1:2,210

N

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Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-20

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Stantec

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Adelanto, CA

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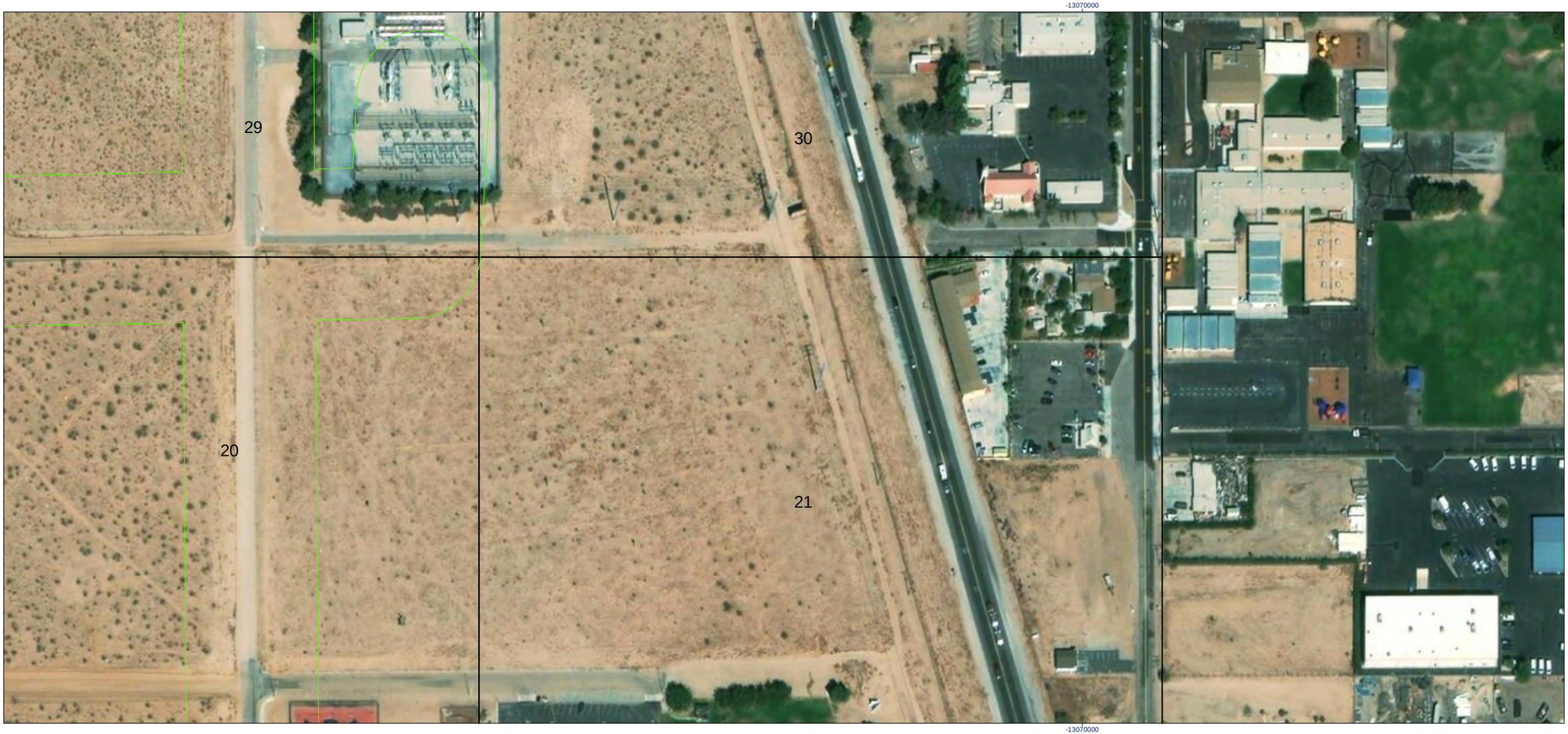
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-21

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-22

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

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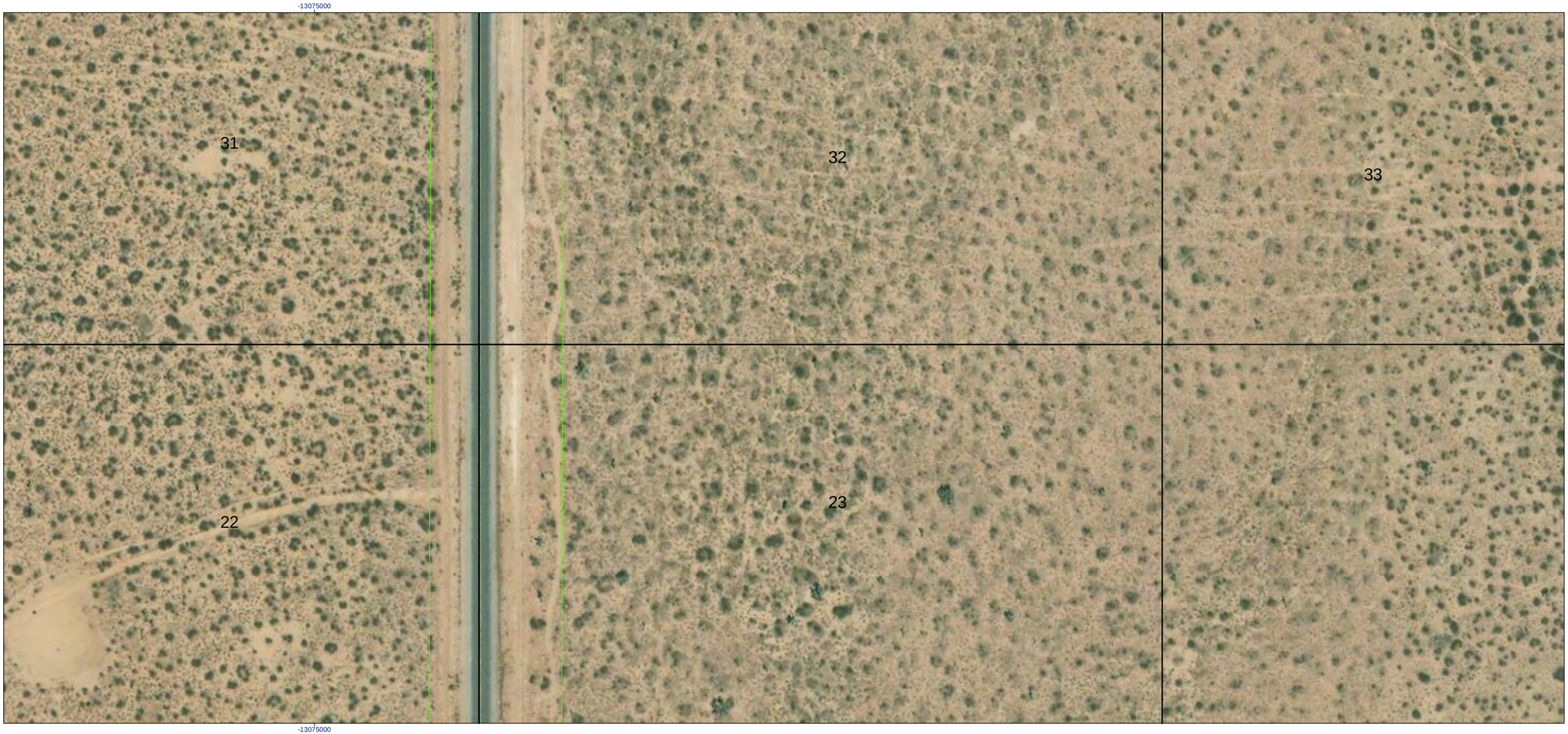
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-23

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-24

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

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1:2,210

N

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Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-25

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000



-13072000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

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Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-26

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

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Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-27

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13070000



-13070000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-28

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000

4107000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-29

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

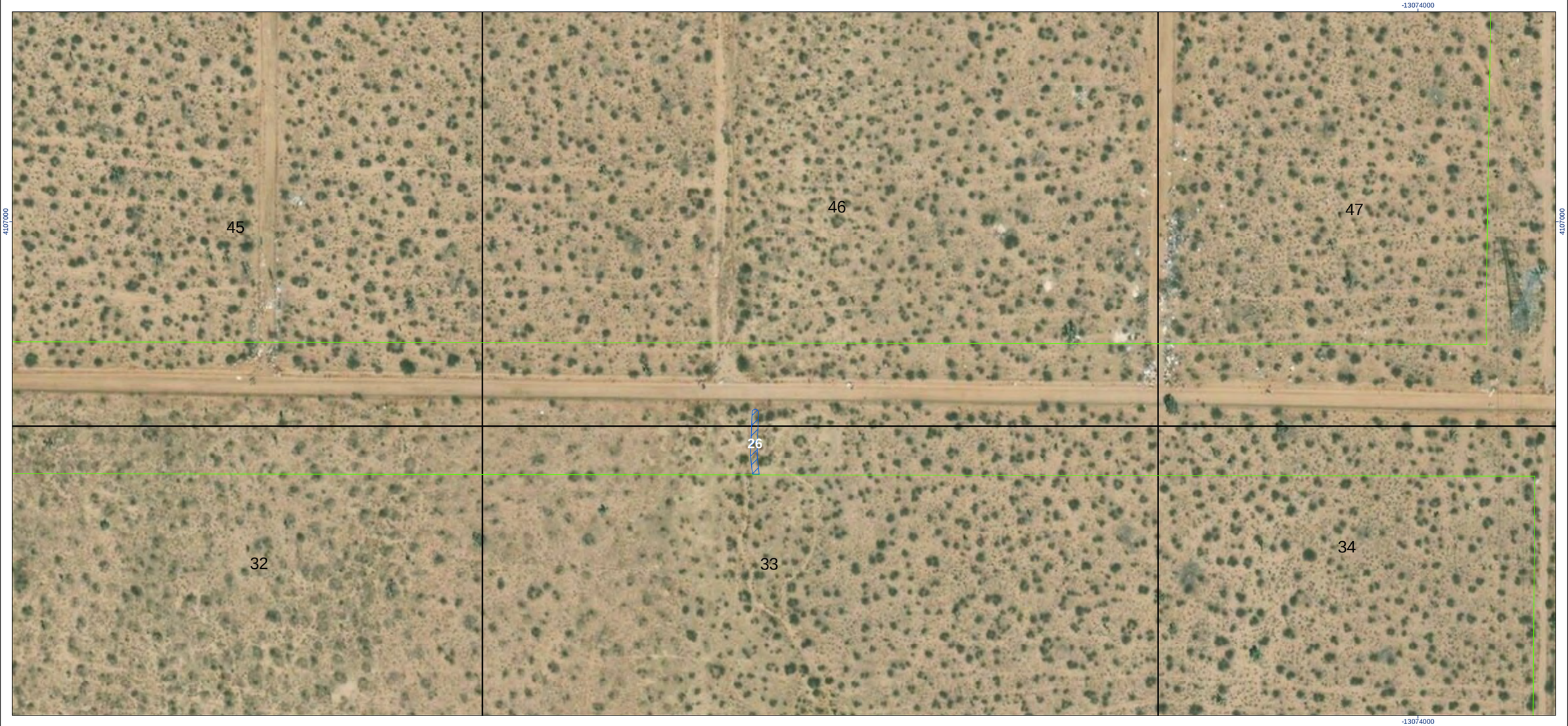
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-30

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-31

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000

4107000

46

47

48

25

26

33

34

35

-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
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Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-32

Title
Jurisdicitonal Features



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-33

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
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1:2,210

N

Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-34

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

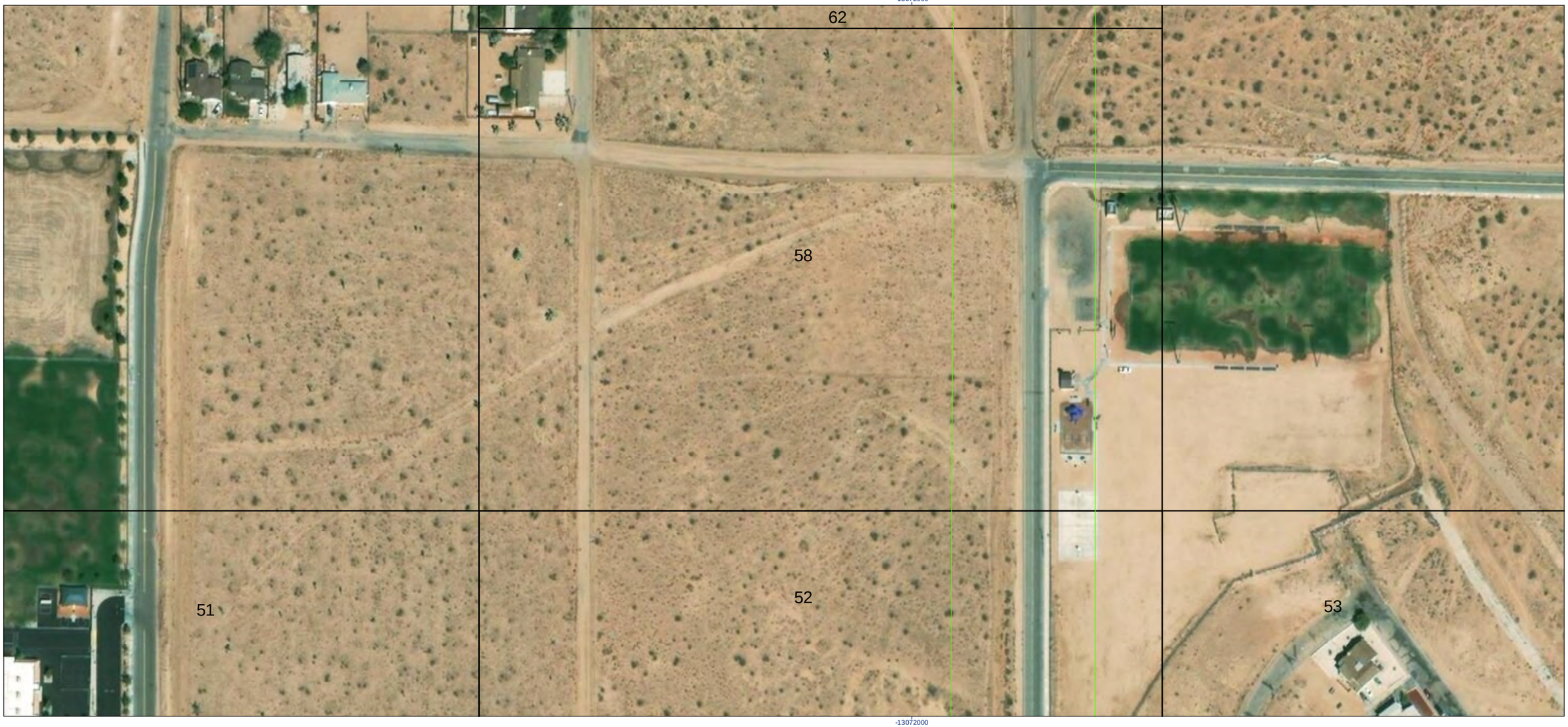
sPower - Baldy Mesa Solar Project

Figure No.
4-35

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000



-13072000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

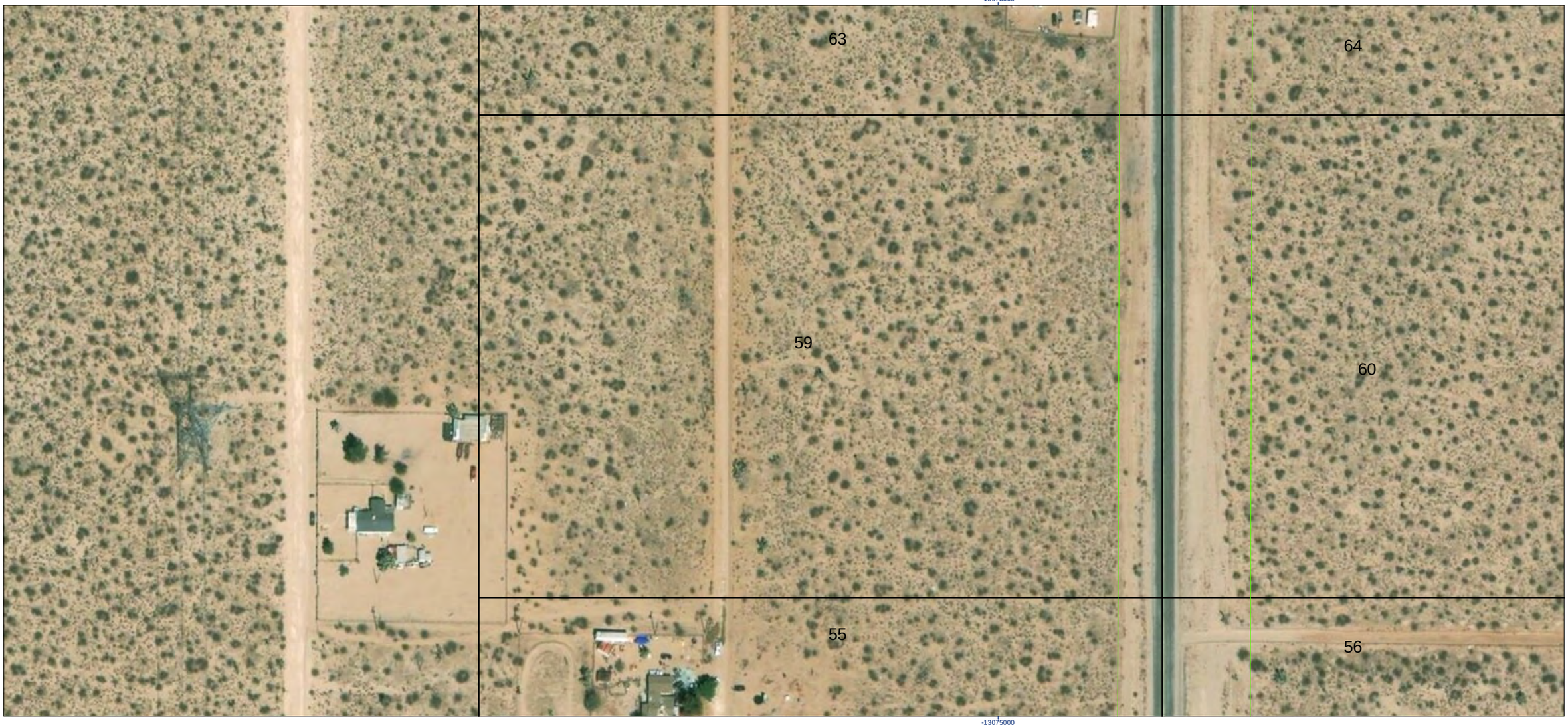
sPower - Baldy Mesa Solar Project

Figure No.
4-36

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

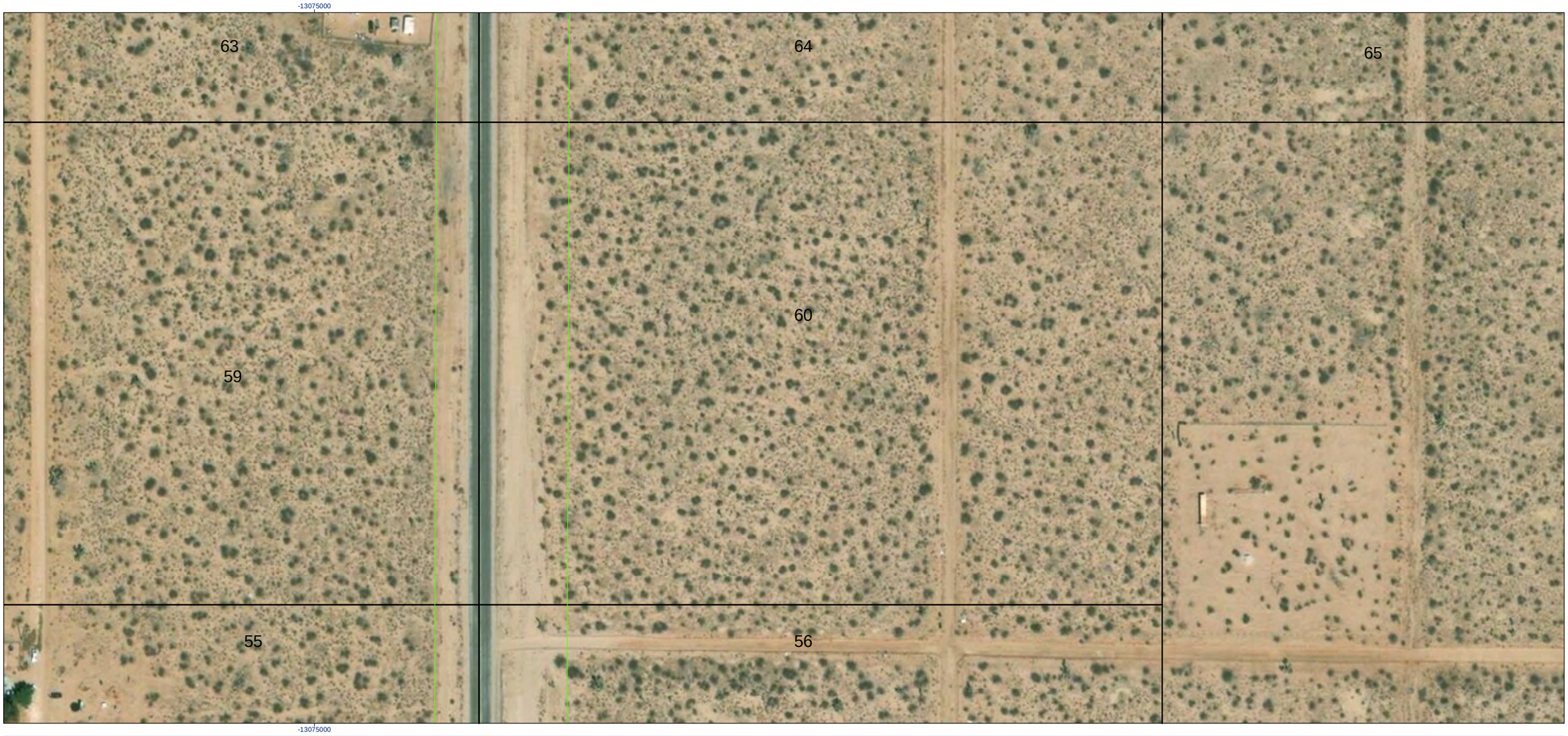
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-37

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-38

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000



-13072000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-39

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000

4108000

72

73

63

29

64

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60

-13075000

4108000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

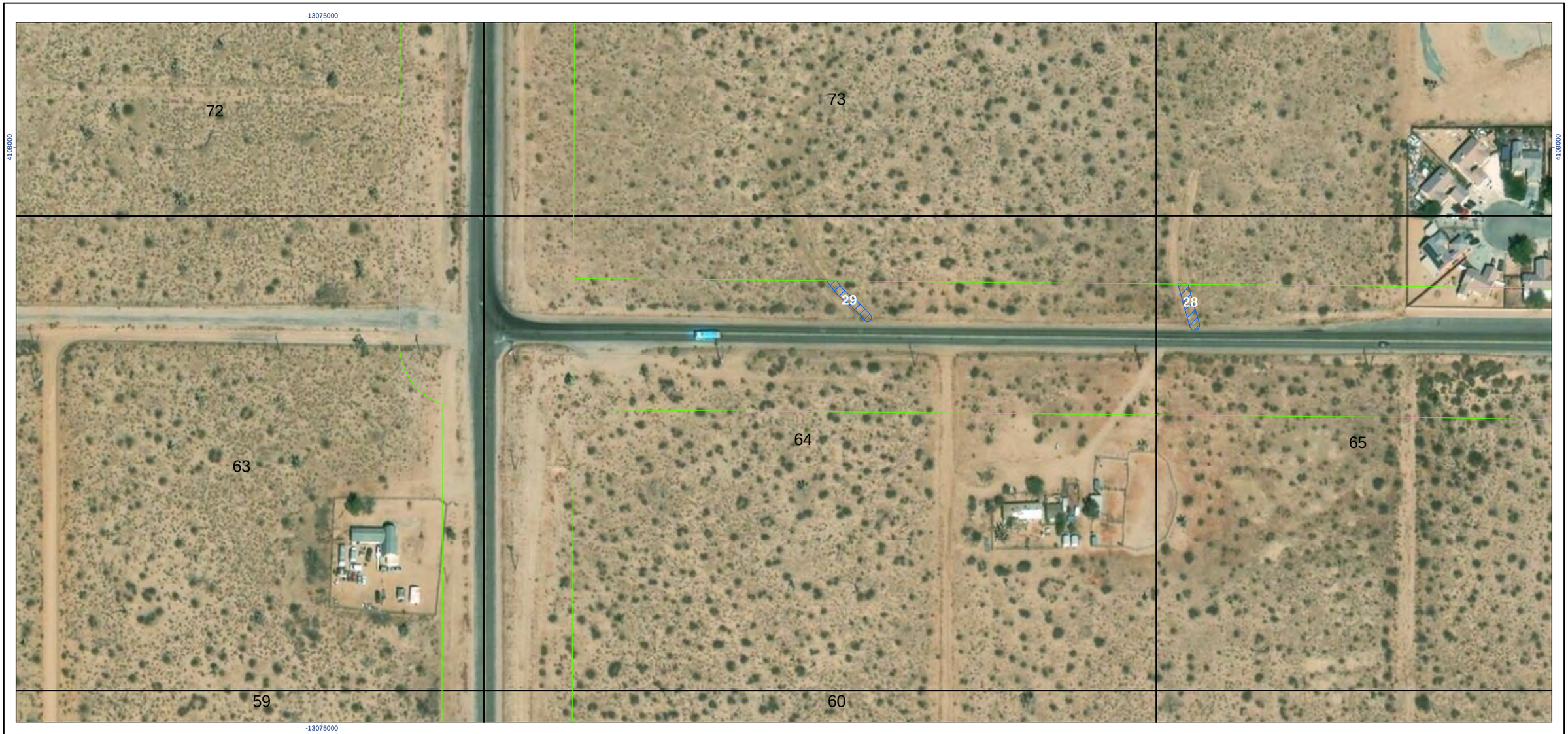
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-40

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

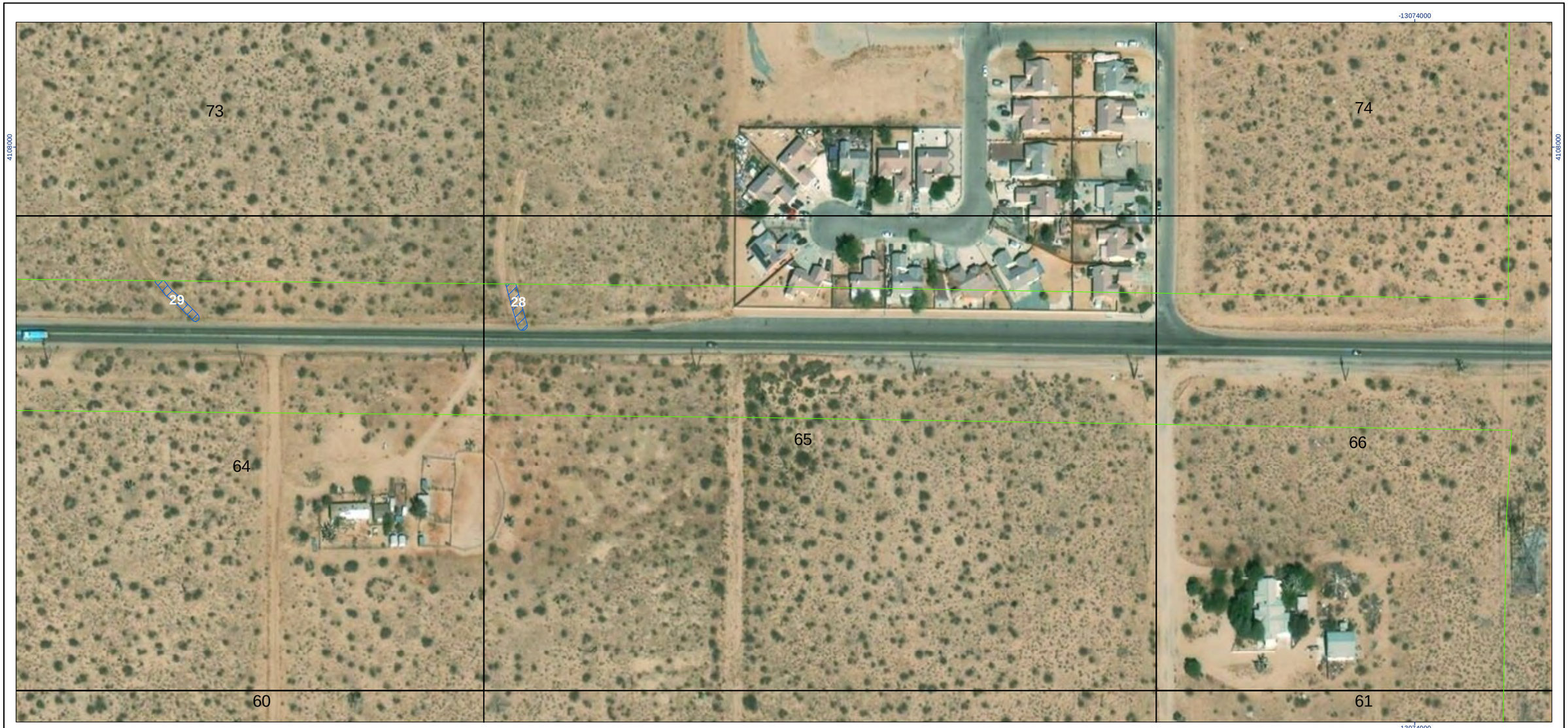
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-41

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-42

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

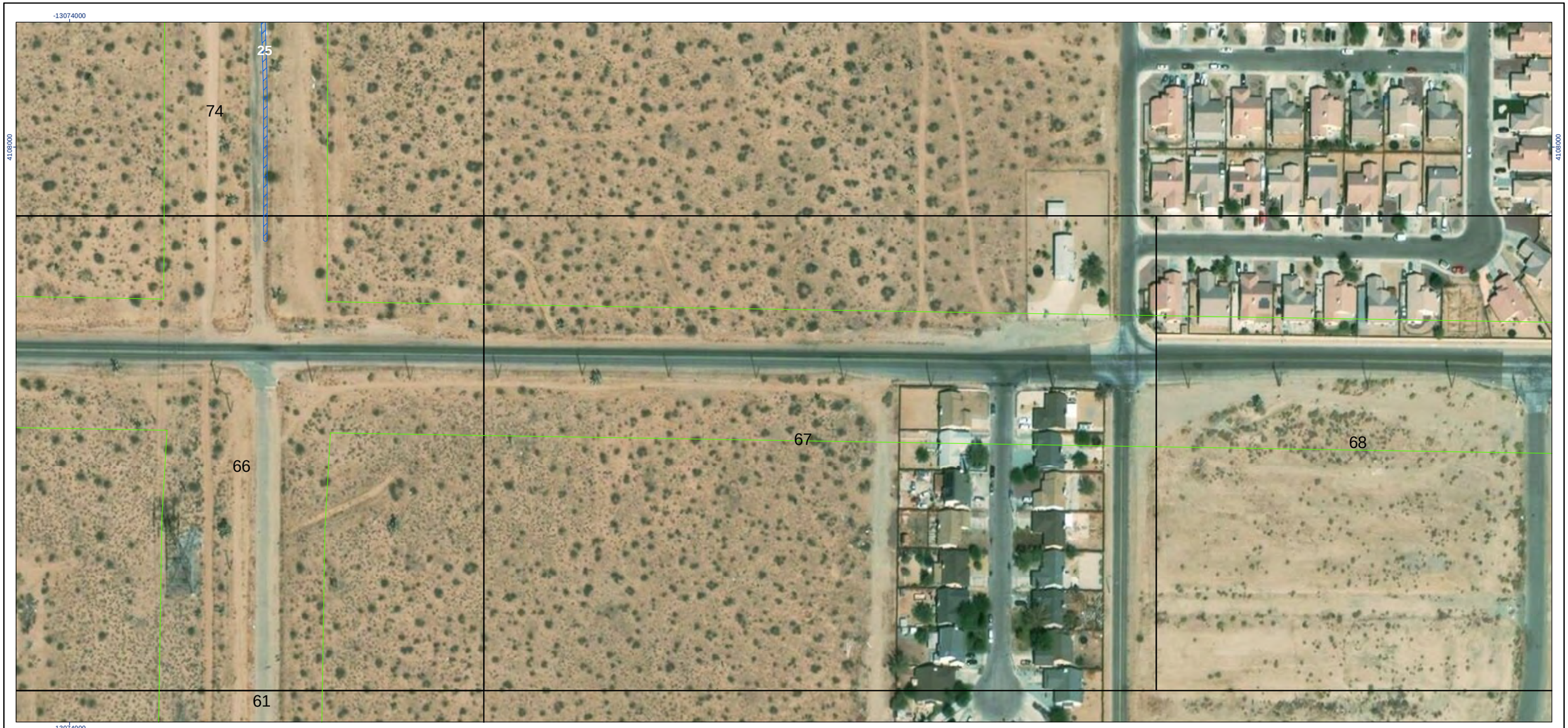
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-43

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-44

Title
Jurisdicitonal Features



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-45

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-46

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

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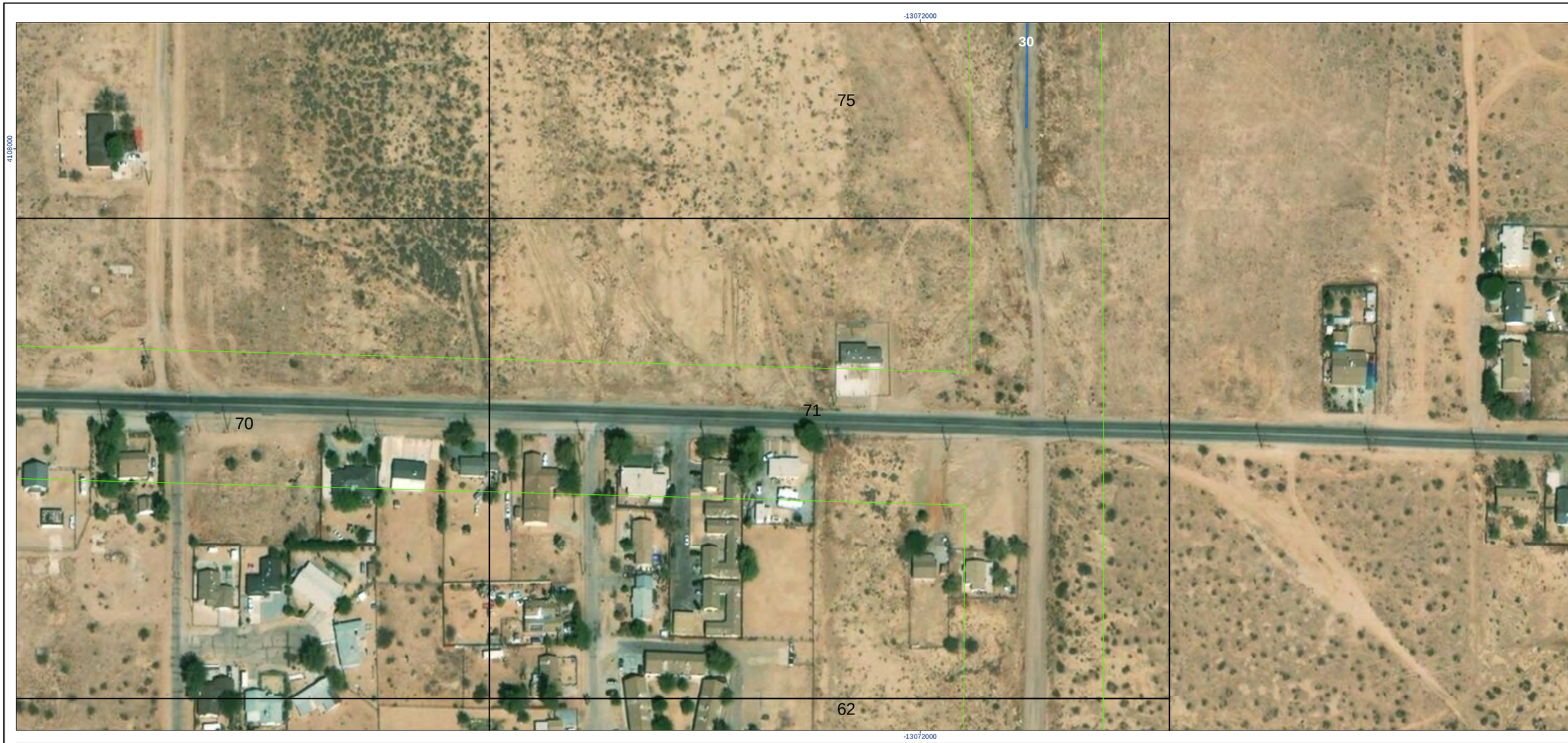
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-47

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-48

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

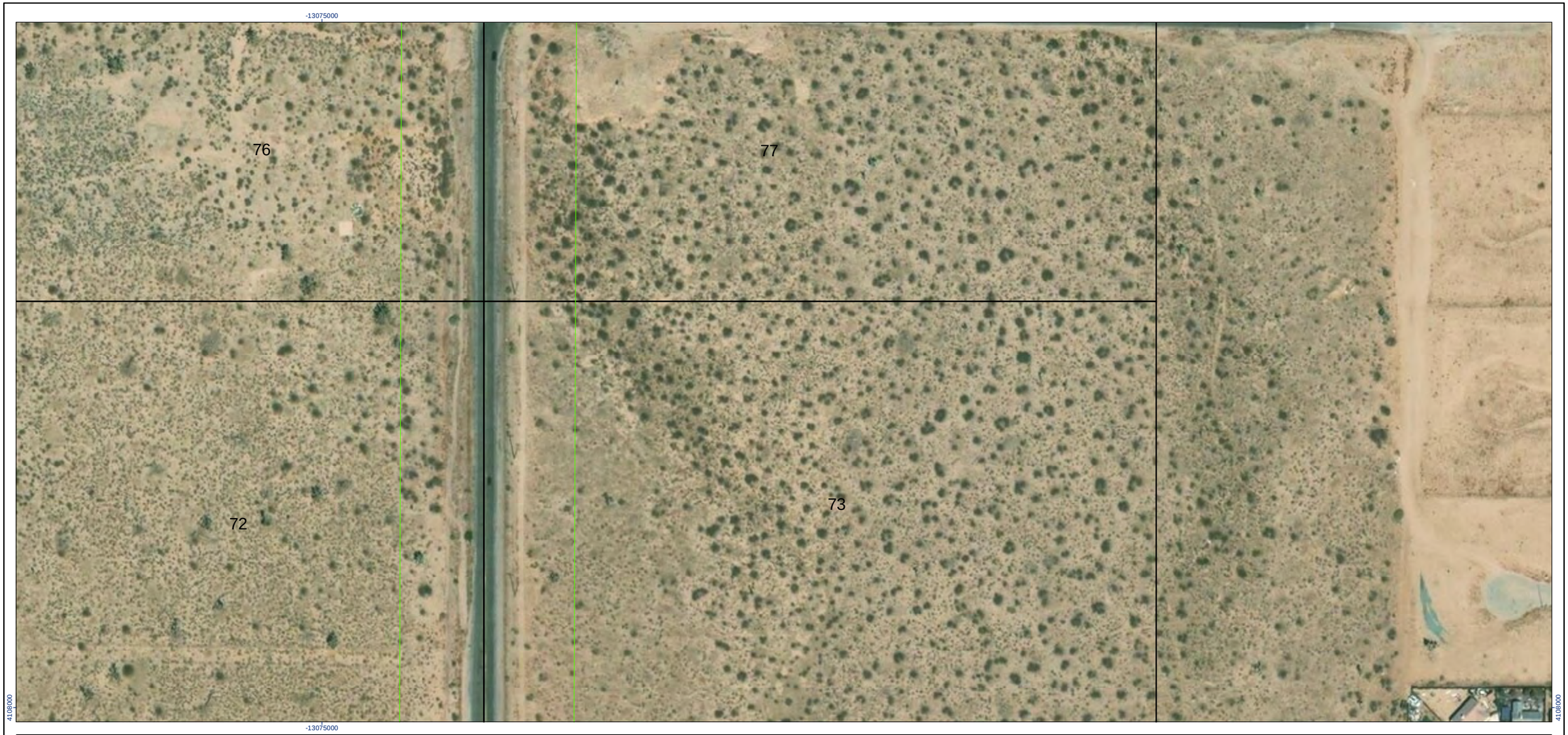
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-49

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-50

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-51

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location	Prepared by JV on 2020-04-05 TR by PM on 2020-04-07 IR Review by MW on 2020-04-07
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

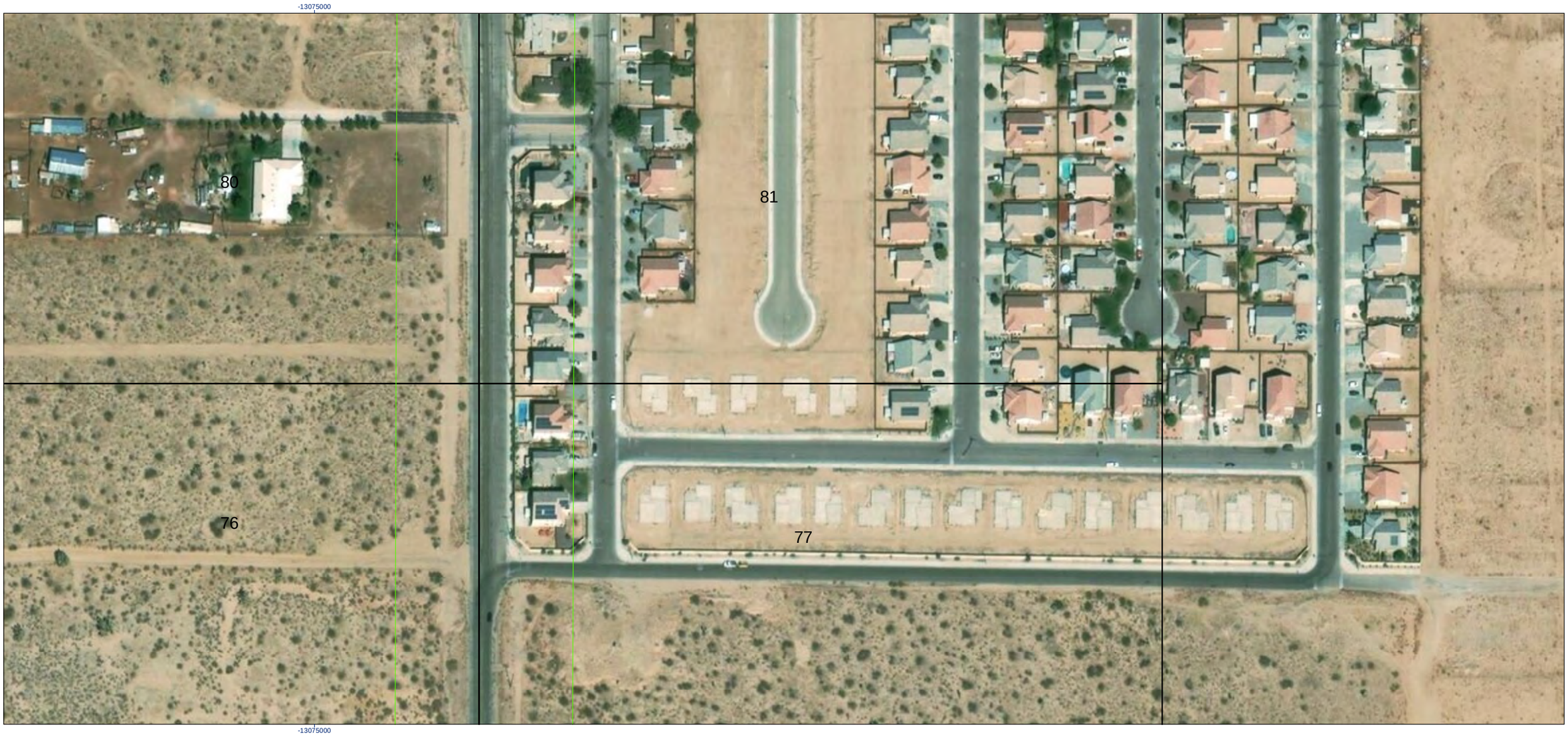
Figure No.

4-52

Title

Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location	Prepared by JV on 2020-04-05 TR by PM on 2020-04-07 IR Review by MW on 2020-04-07
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-53

Title

Jurisdicitonal Features

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-54

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

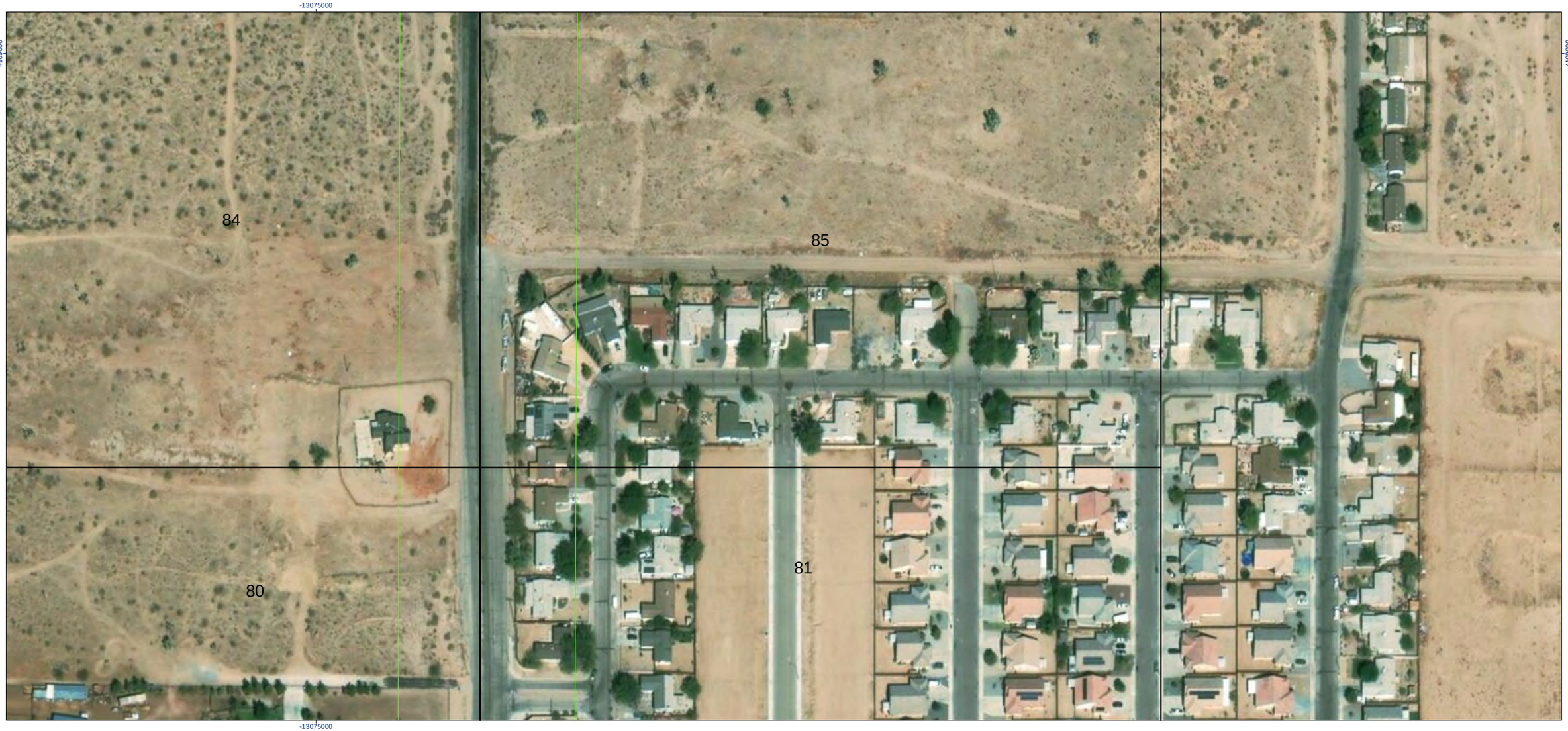
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-55

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-56

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000

4109000



-13072000

4109000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-57

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-58

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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White labels/numbers represent jurisdictional features.
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-59

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

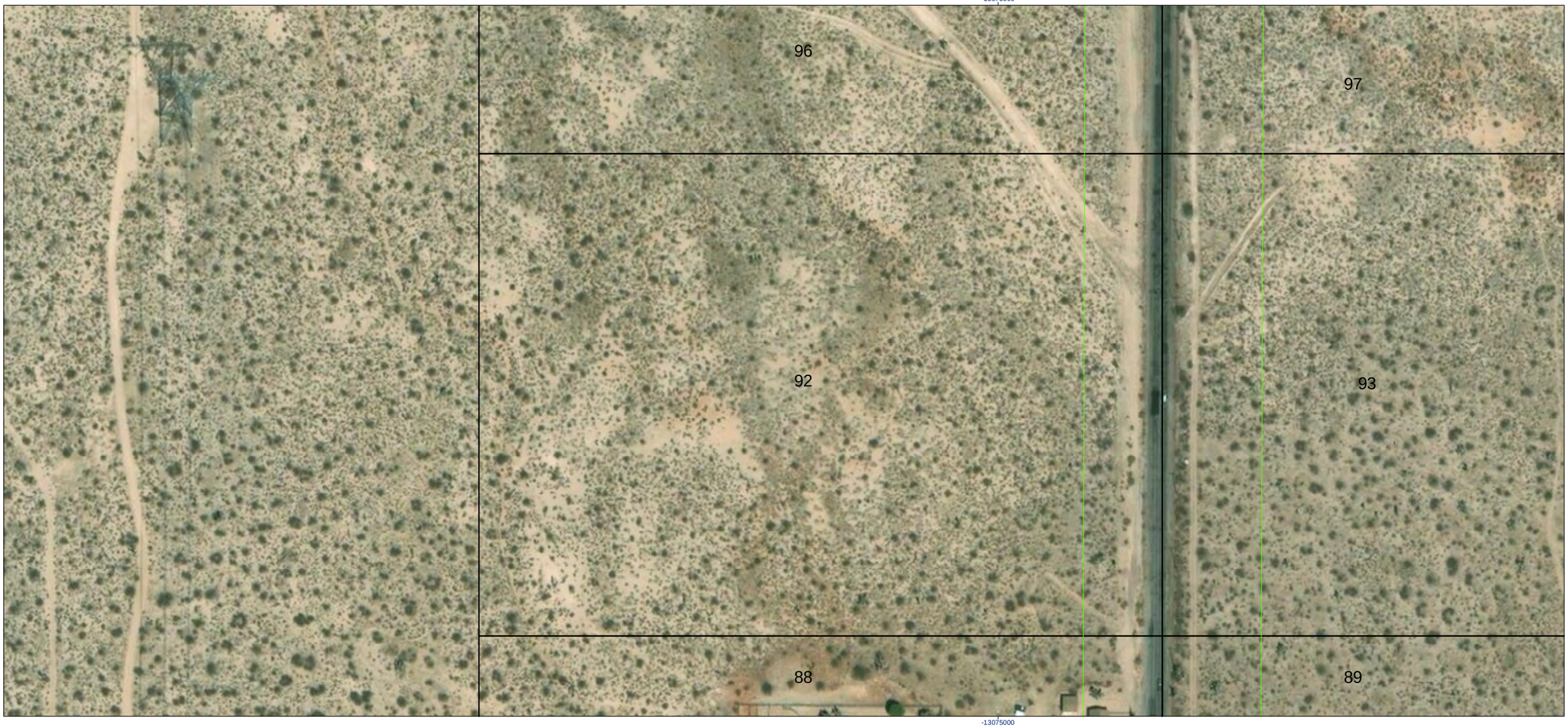
sPower - Baldy Mesa Solar Project

Figure No.
4-60

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-61

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-62

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13072000



-13072000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-63

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13077000



-13077000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-64

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-65

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-66

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-67

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-68

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-69

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-70

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-71

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-72

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-73

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

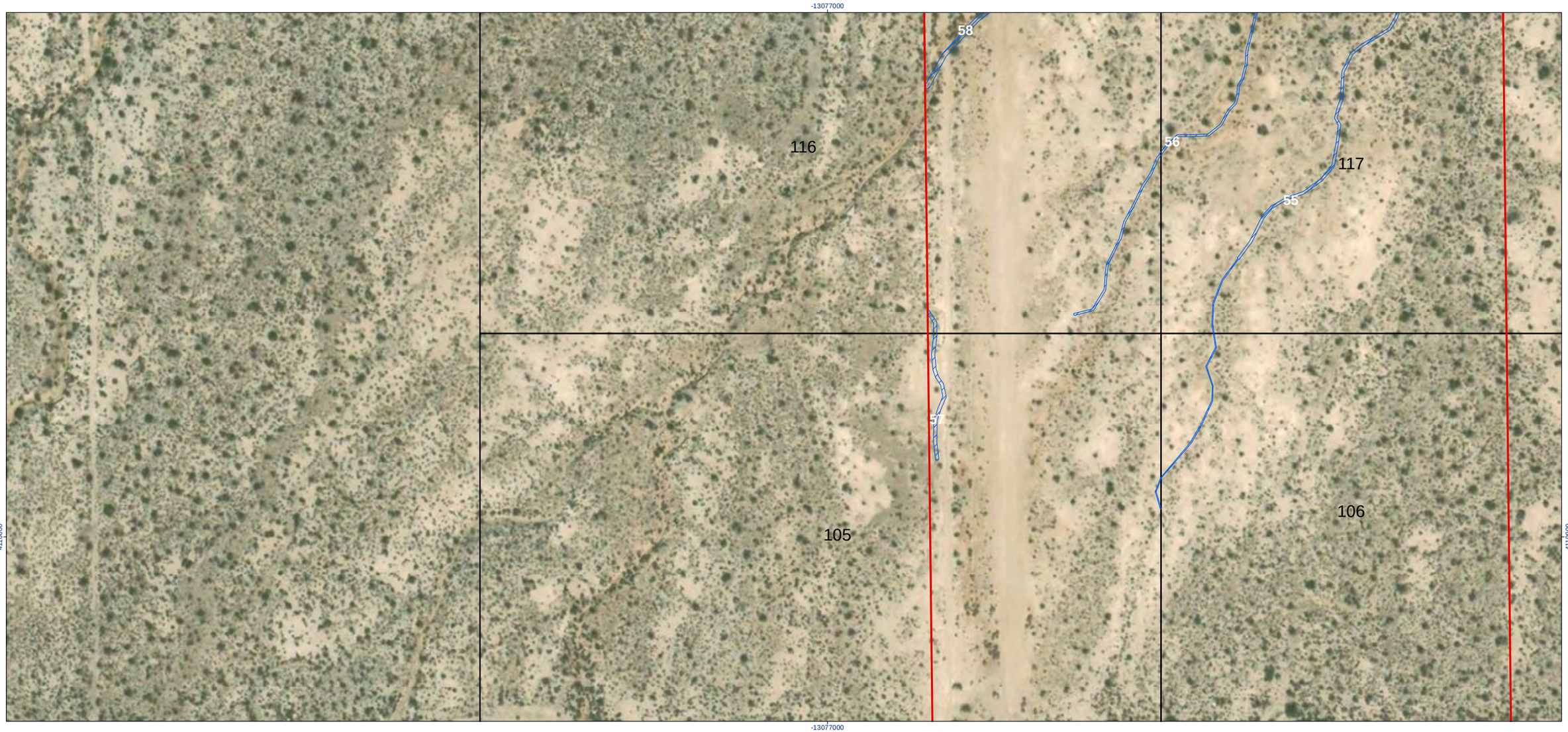
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-74

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

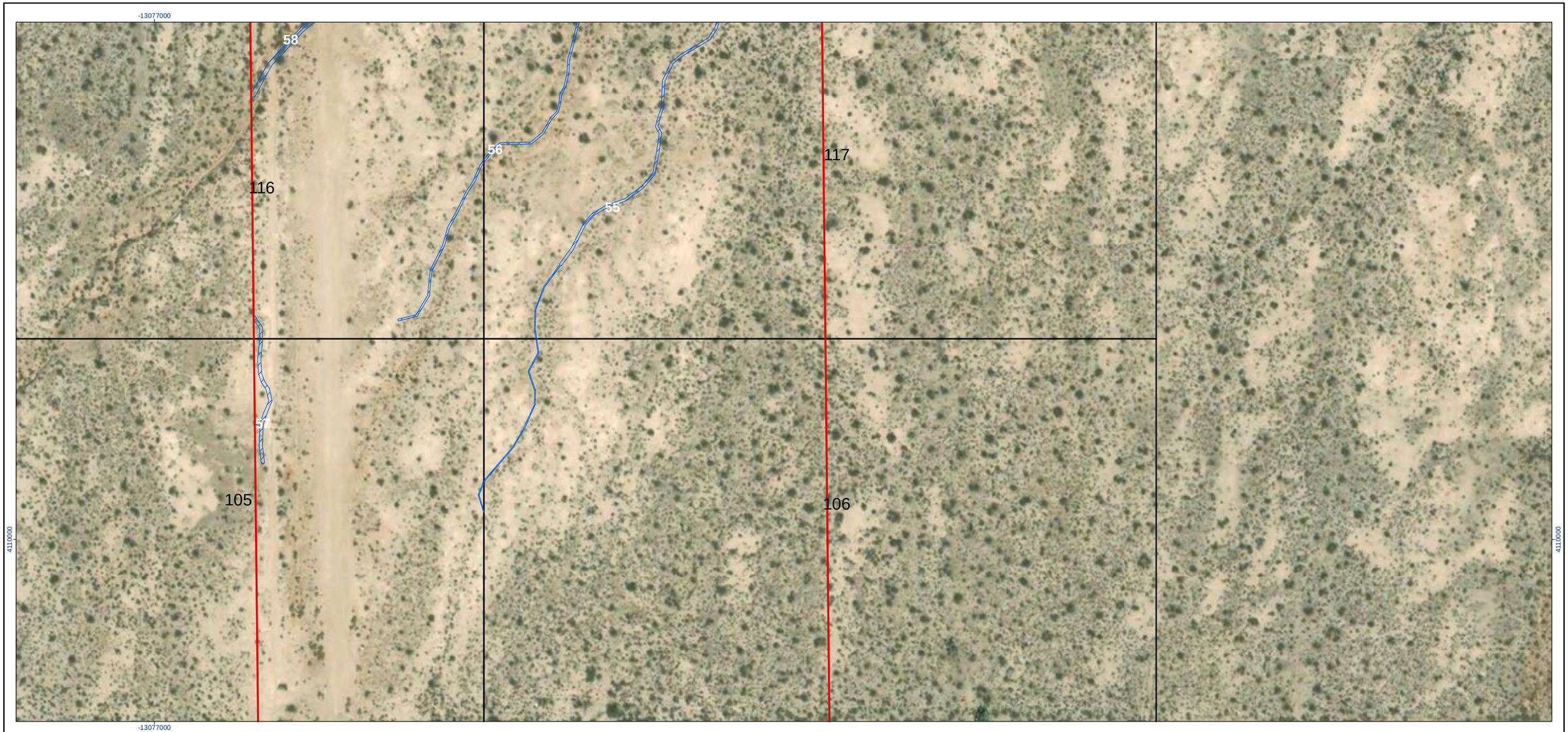
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-75

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-76

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-77

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

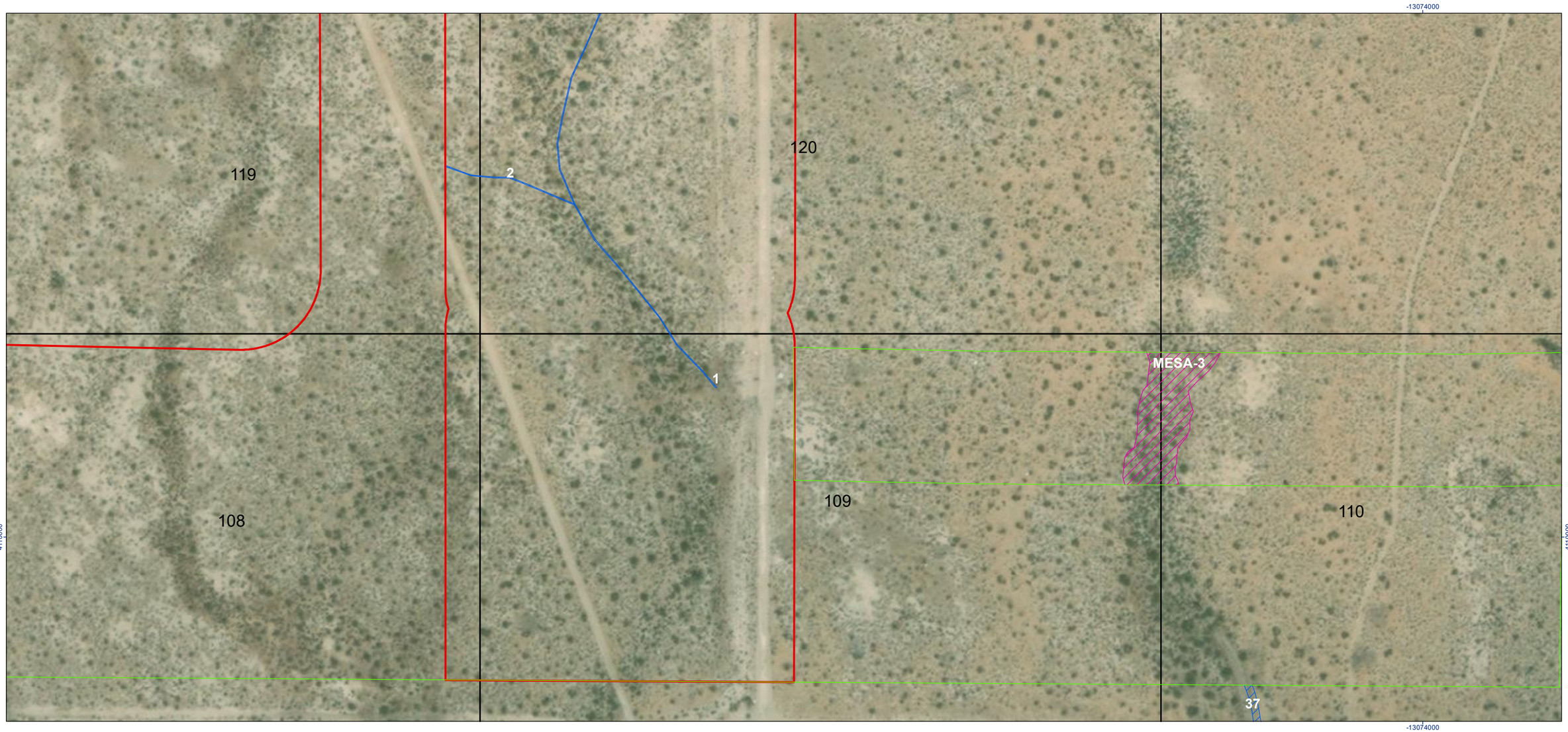
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-78

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

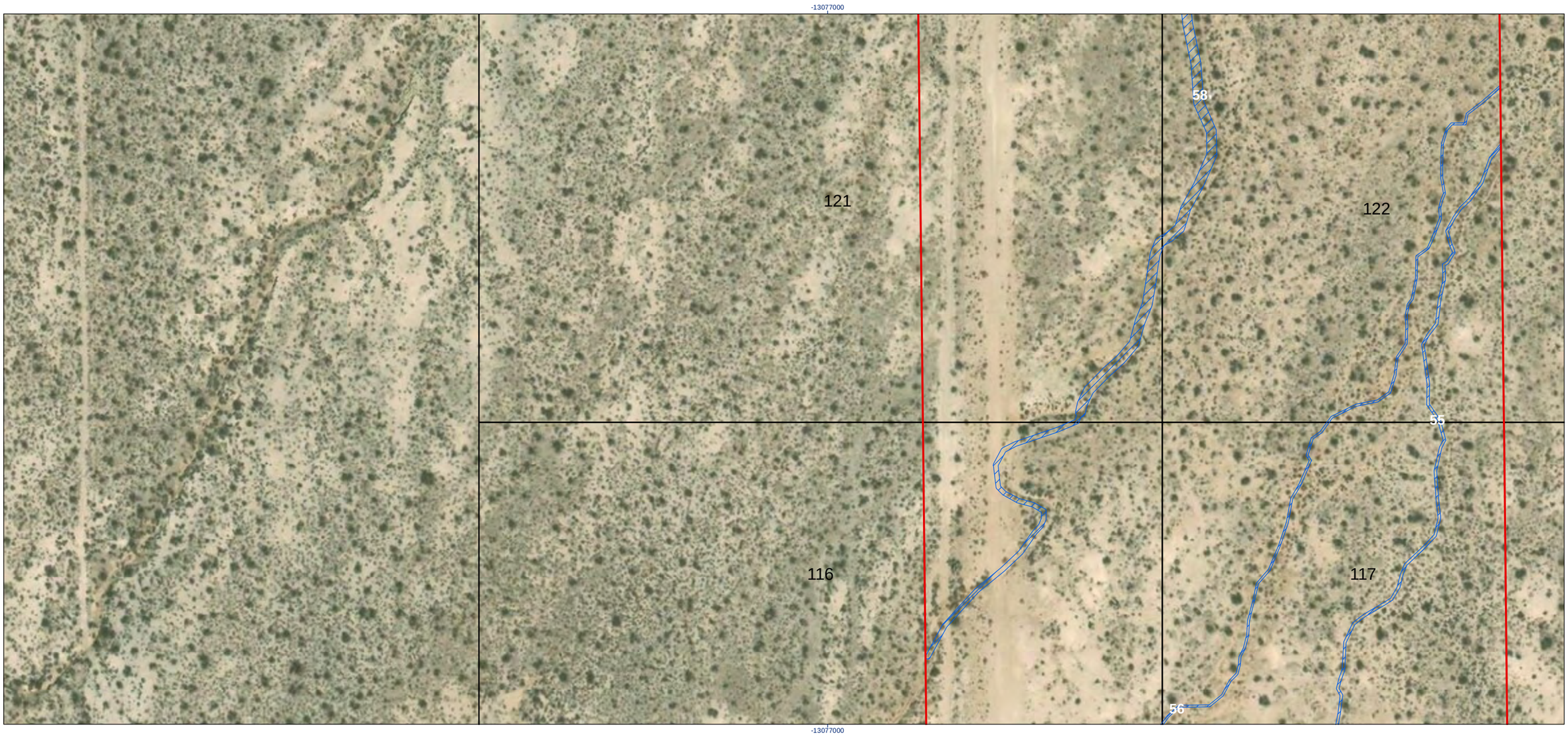
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-79

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

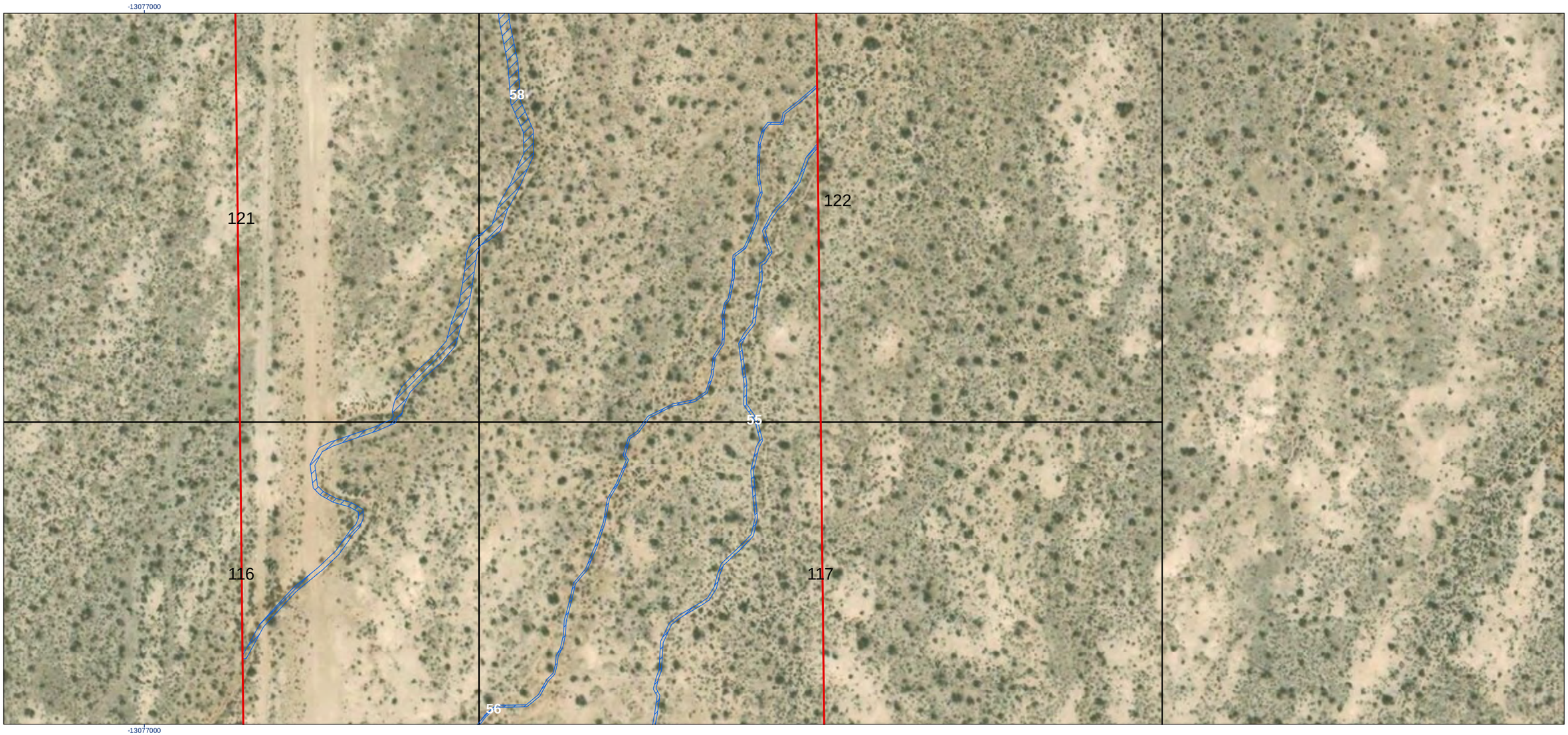
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-80

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-81

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



-13075000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-82

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-83

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-84

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-85

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-86

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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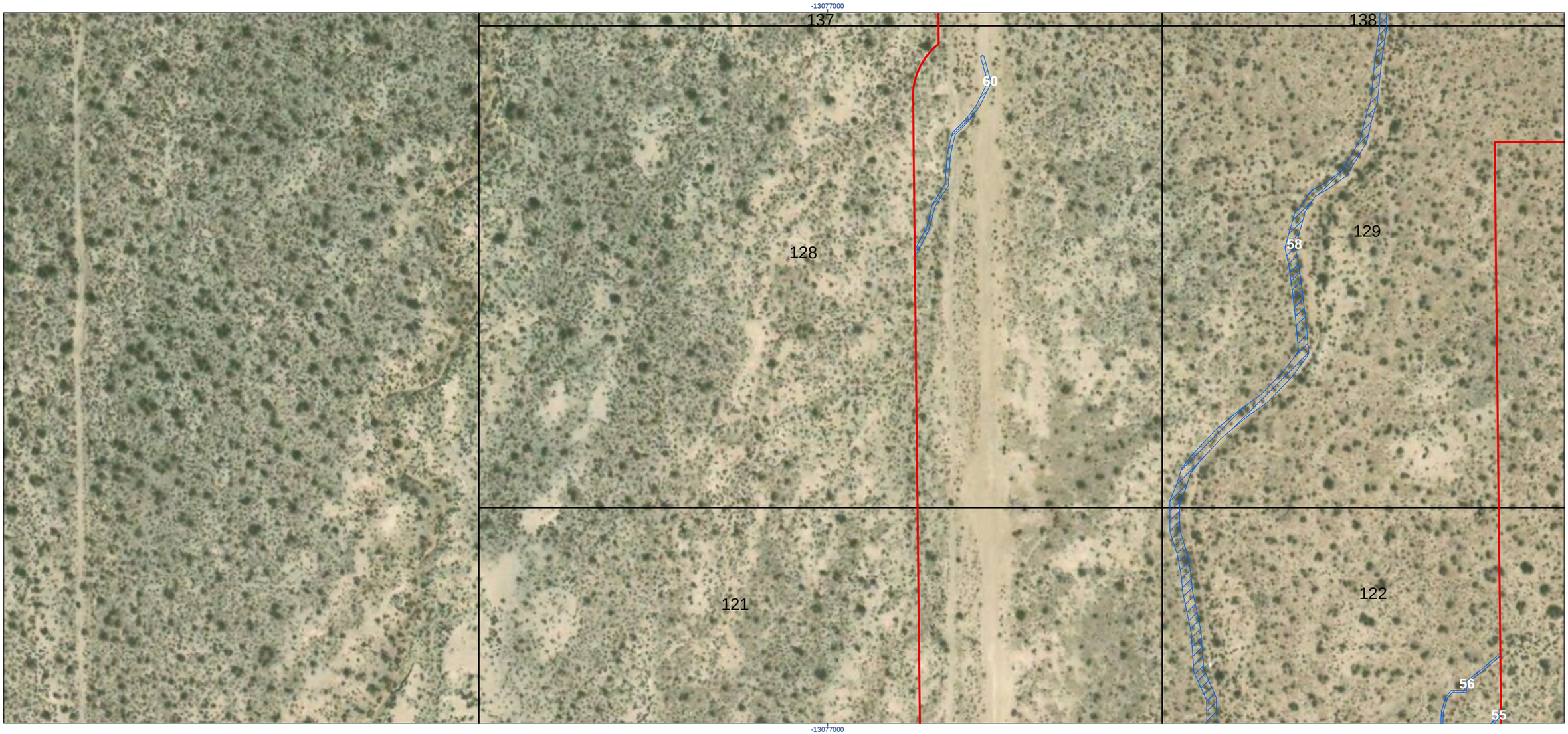
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-87

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-88

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
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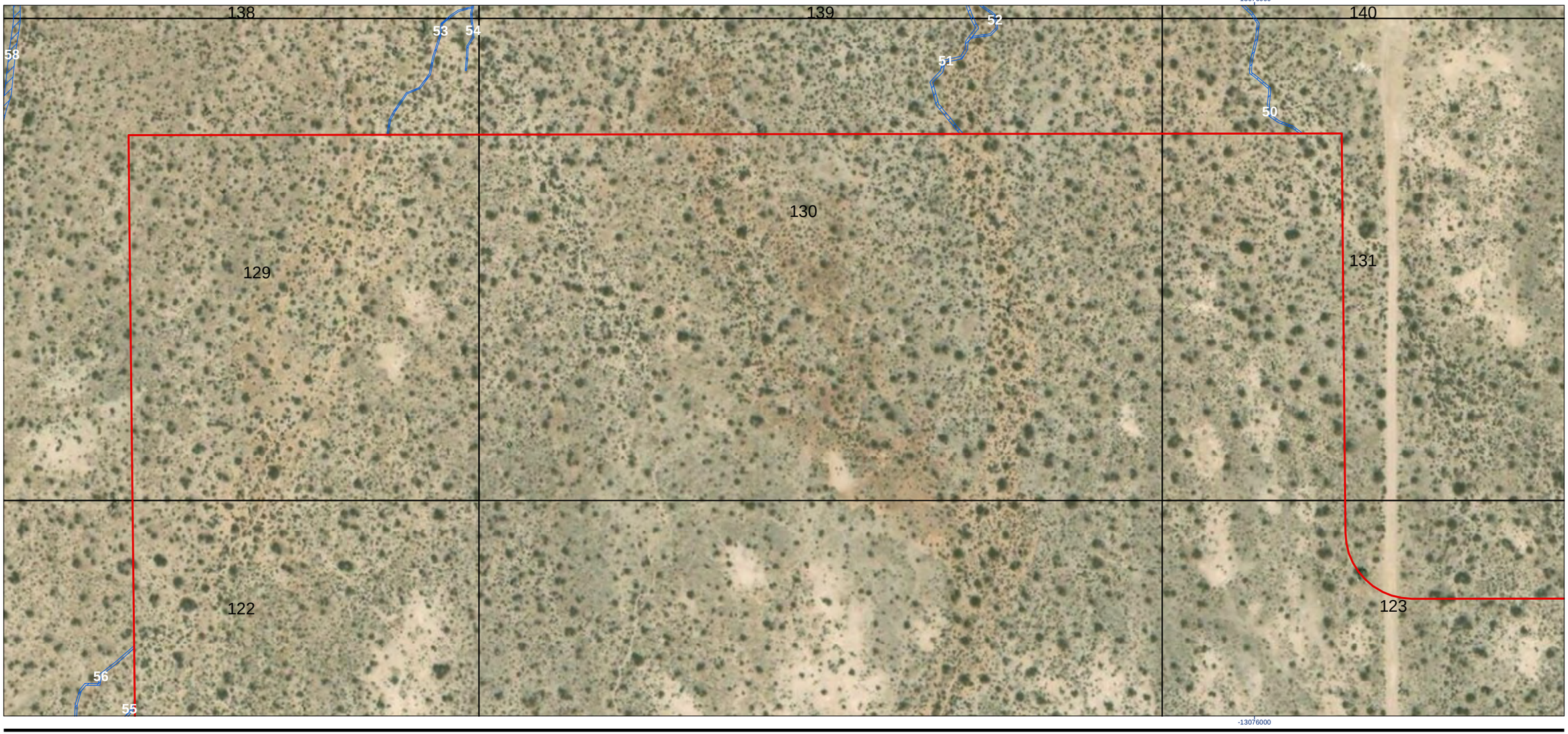
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-89

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-90

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
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1:2,210

N

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Project Location	Prepared by JV on 2020-04-05 TR by PM on 2020-04-07 IR Review by MW on 2020-04-07
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-91

Title

Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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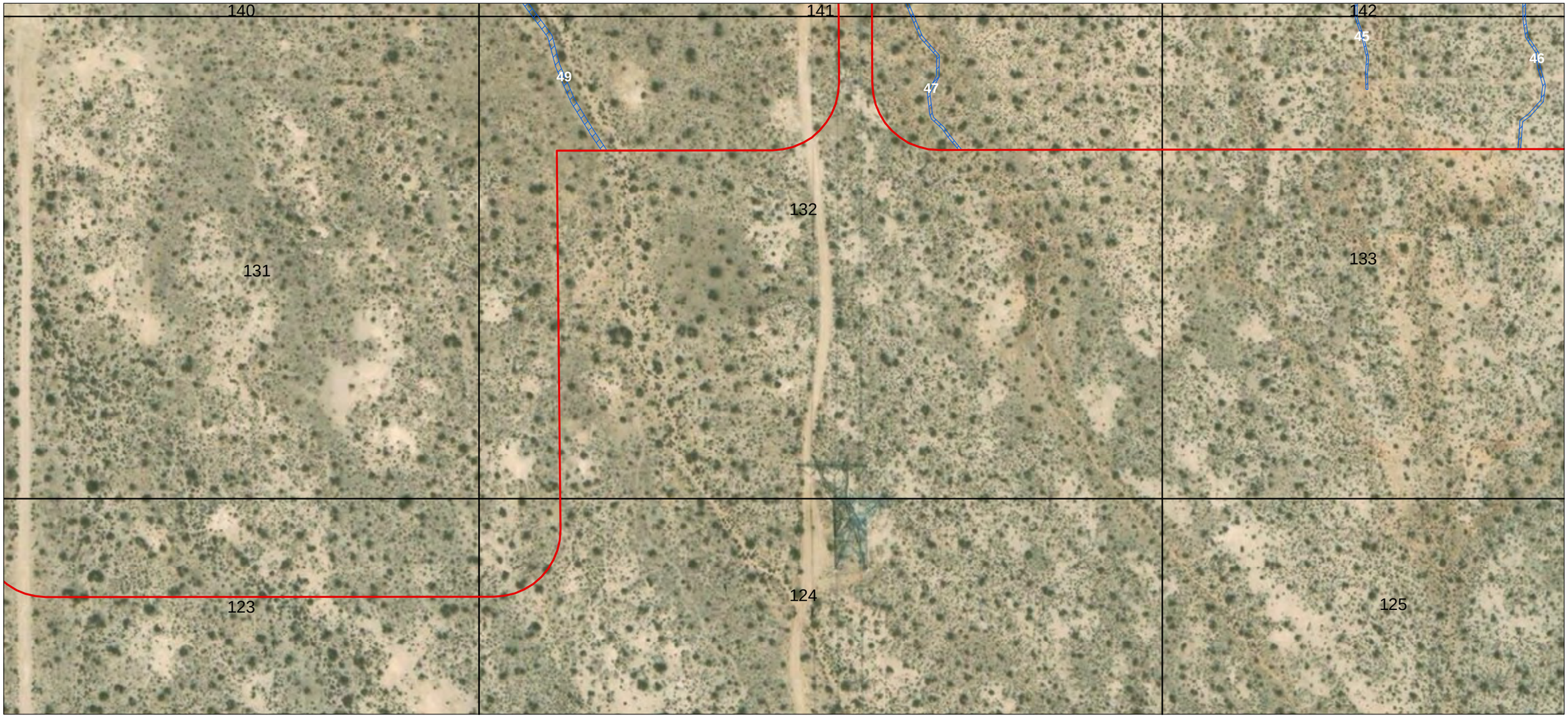

- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-92

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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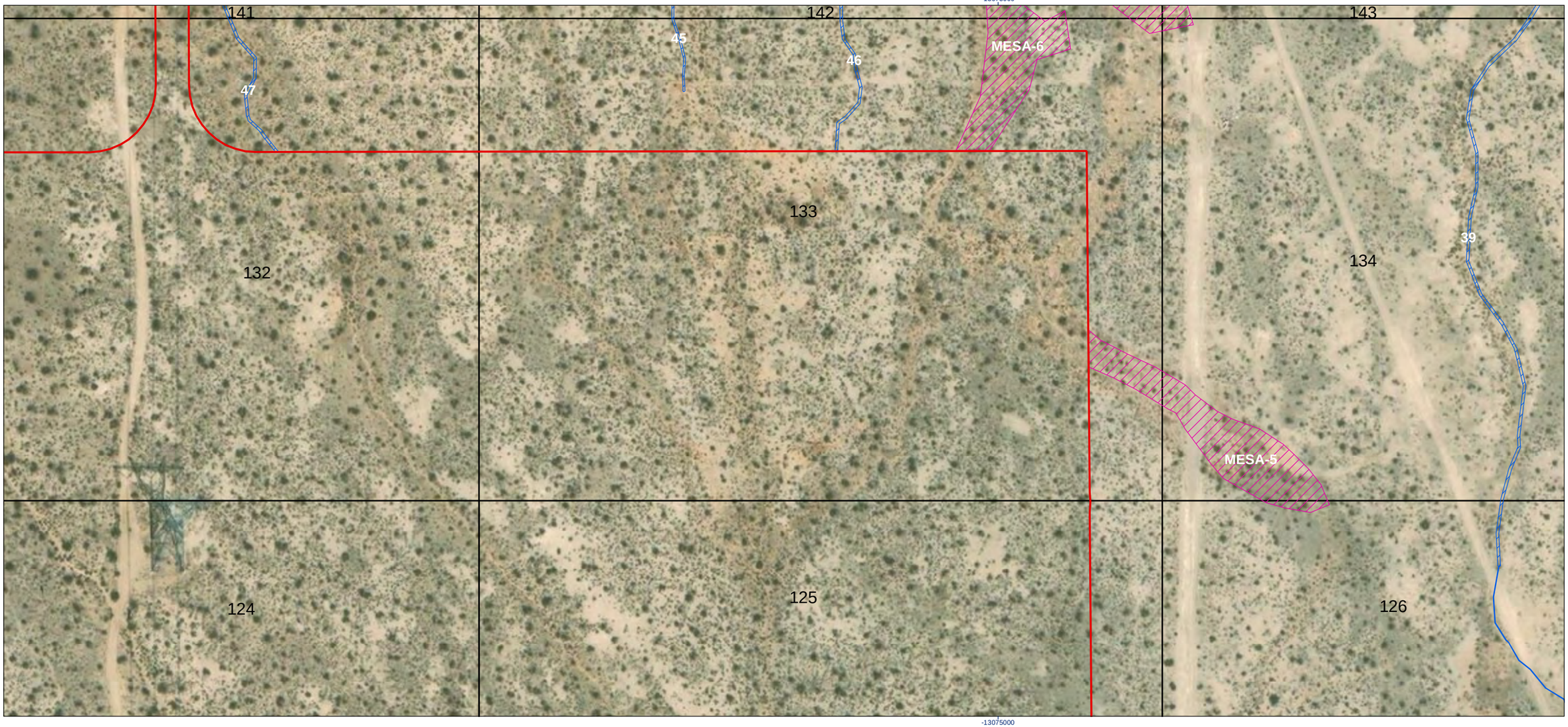

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-93

Title
Jurisdicitonal Features

Notes
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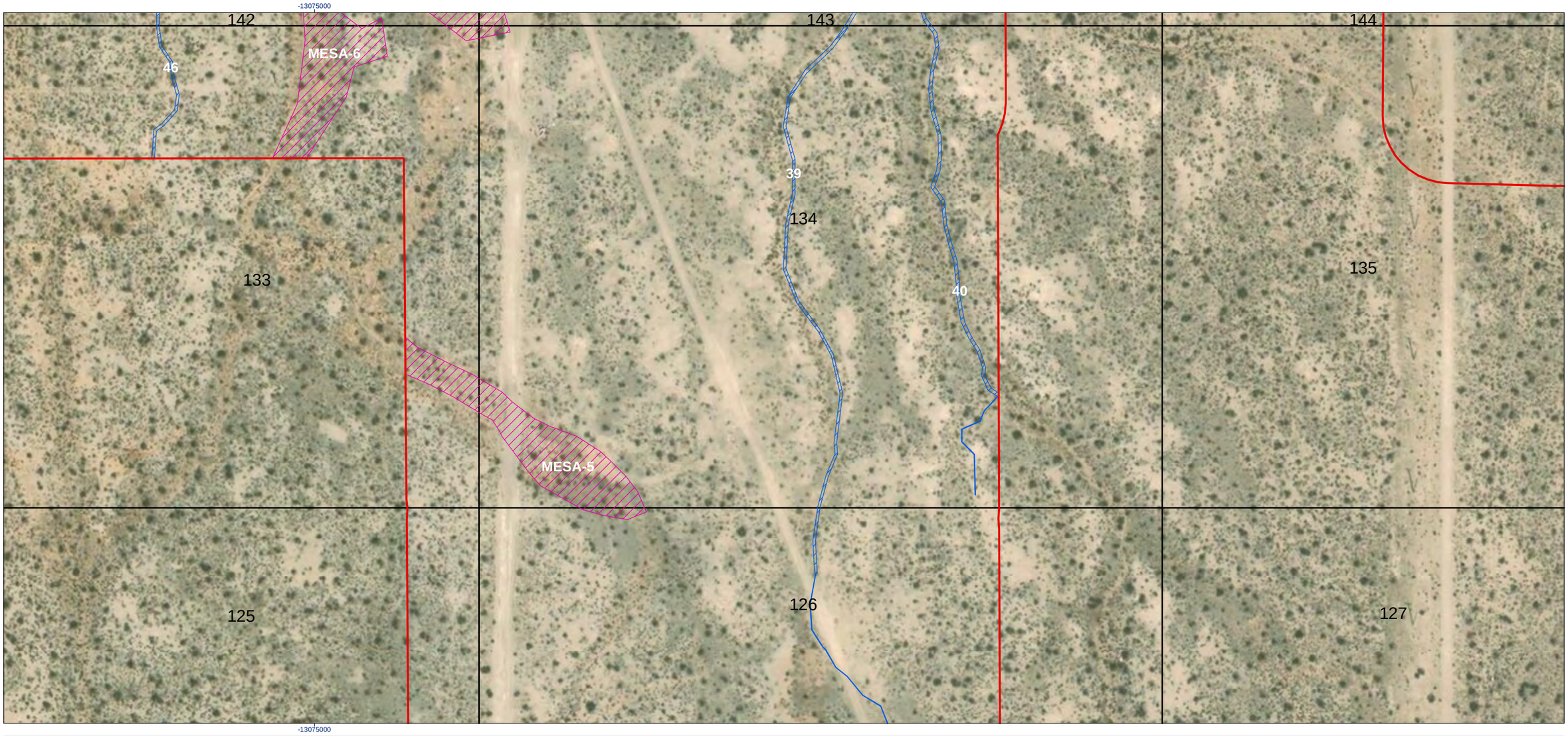

- Map Grid
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-94

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-95

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-96

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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1:2,210

N

Stantec

Project Location	Prepared by JV on 2020-04-05 TR by PM on 2020-04-07 IR Review by MW on 2020-04-07
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-97

Title

Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

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Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-98

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000



-13073000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-99

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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Stantec

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Adelanto, CA

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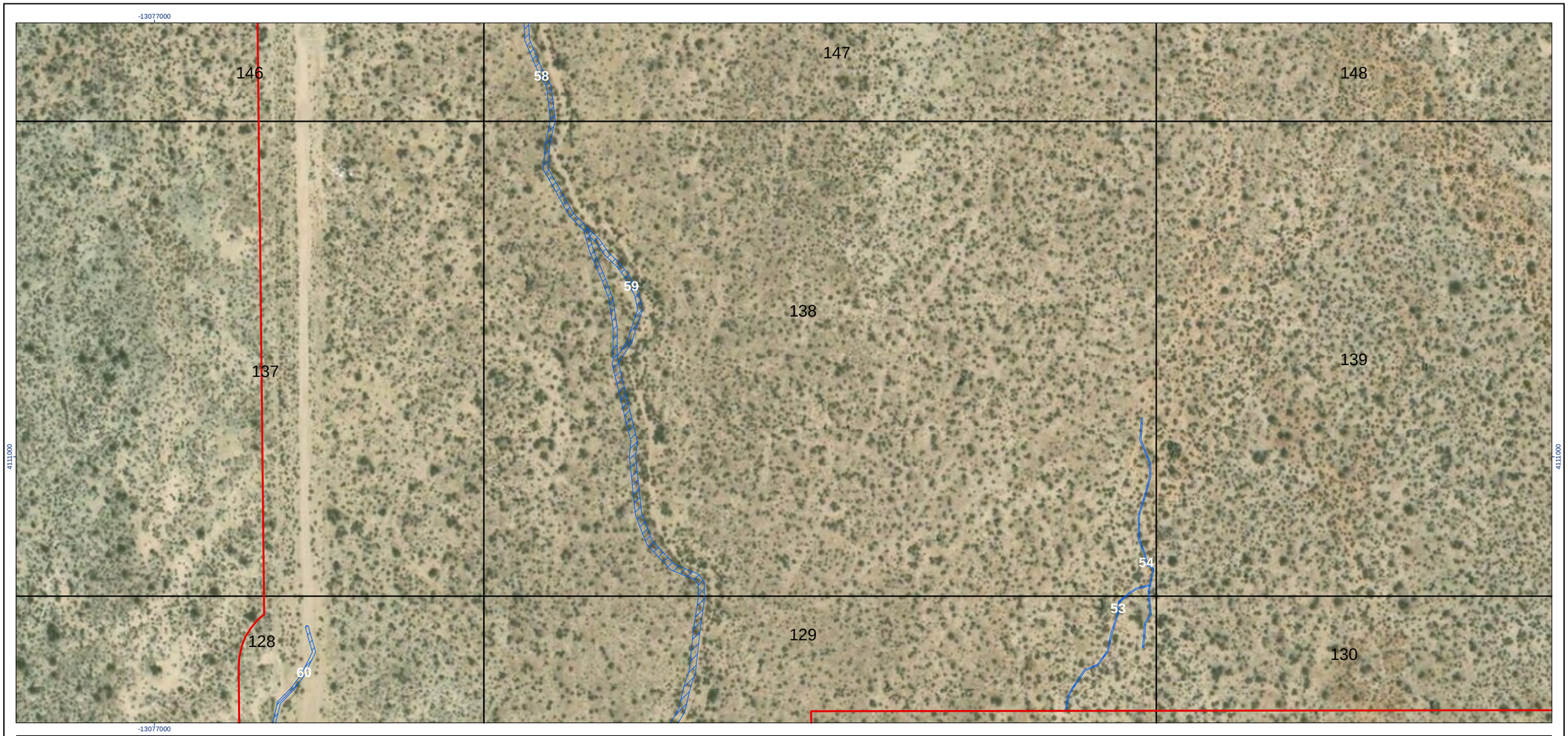
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-100

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
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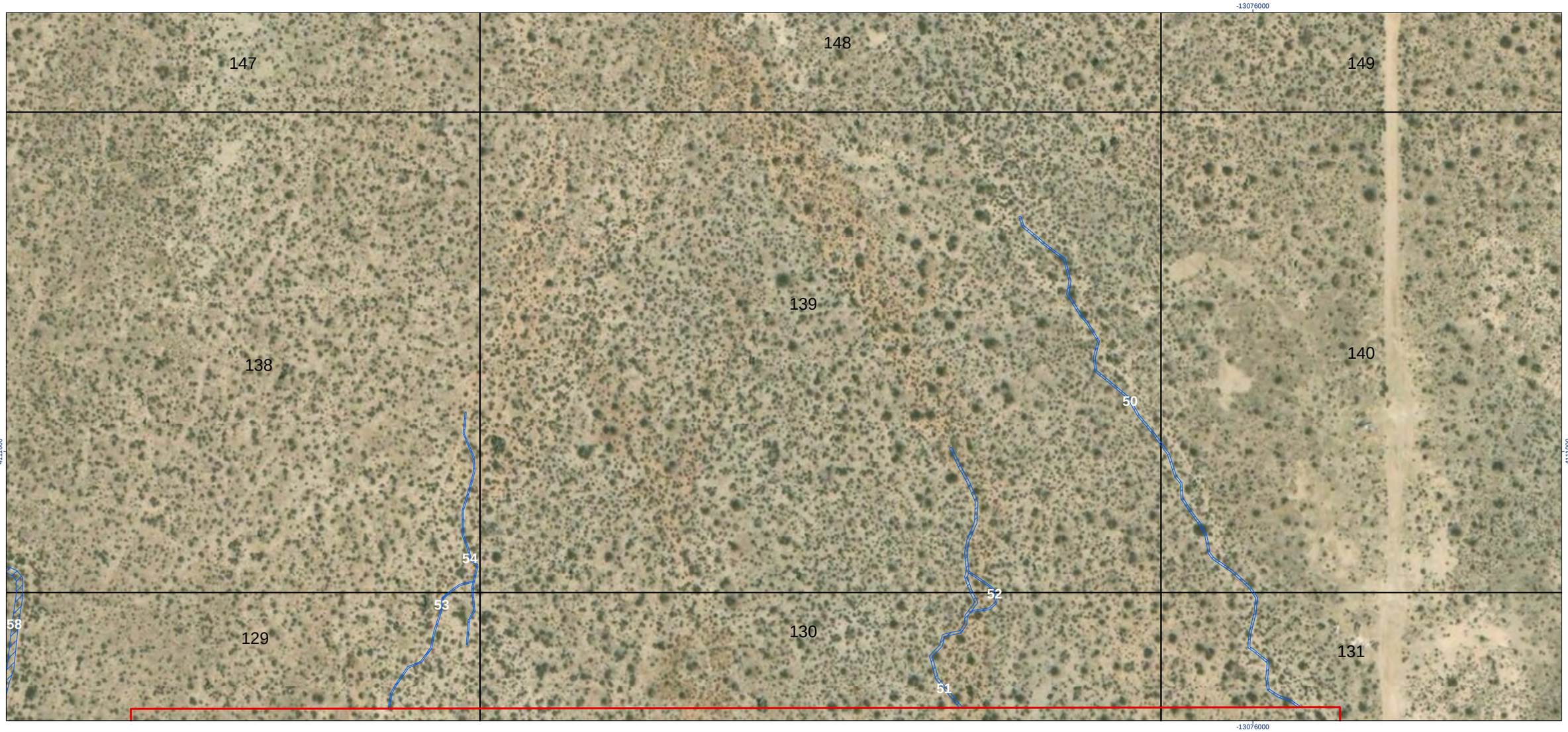
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-101

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-102

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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N

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-103

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
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1:2,210

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-104

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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-13075000

4111000

150
151
152
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134
MESA-6
44
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47
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47
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46

-13075000

4111000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

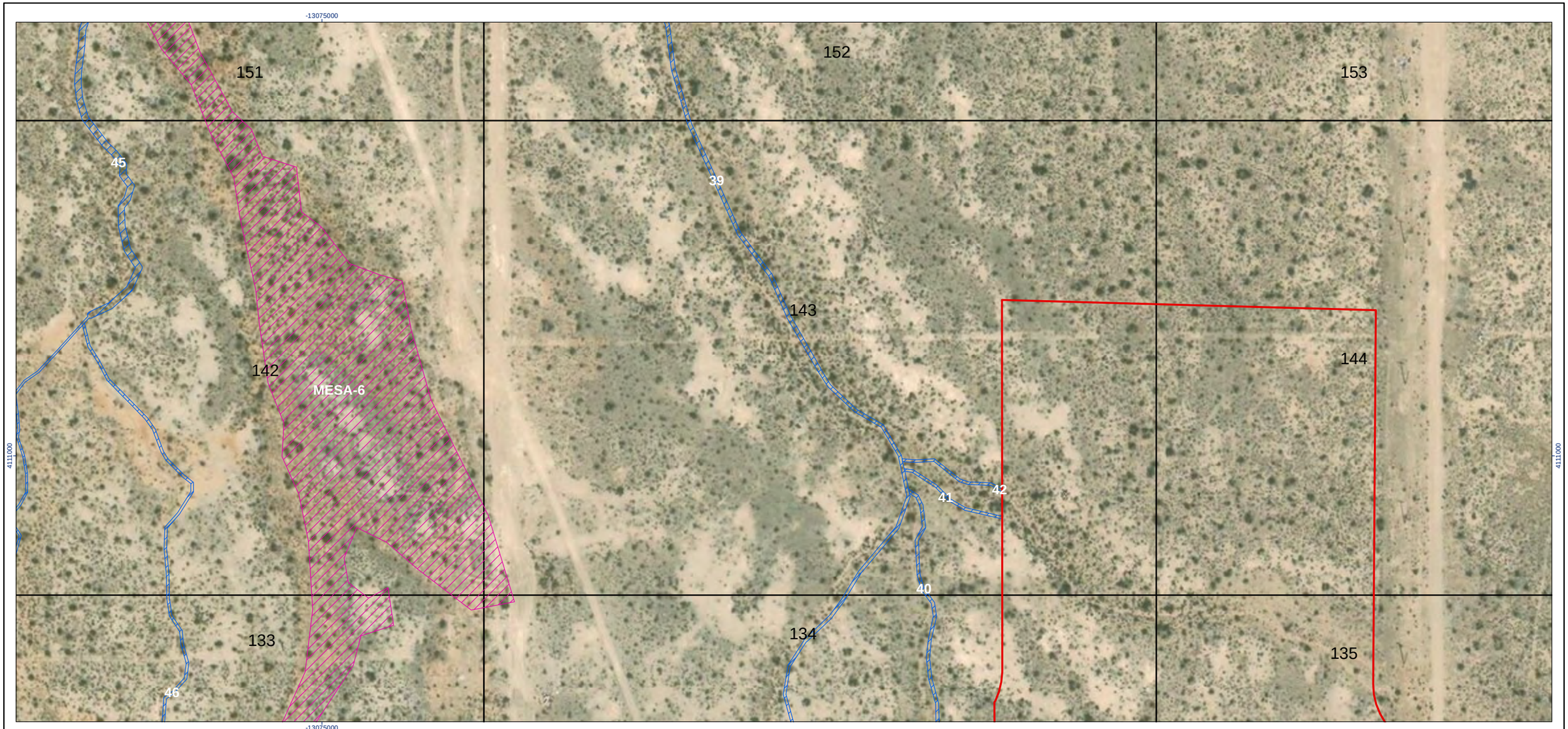
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-105

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-106

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-107

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-108

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-109

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-110

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000

4111000



-13073000

4111000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-111

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13077000

155

156

146

147

137

138

62

61

58

-13077000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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N

Stantec

Project Location
Adelanto, CA

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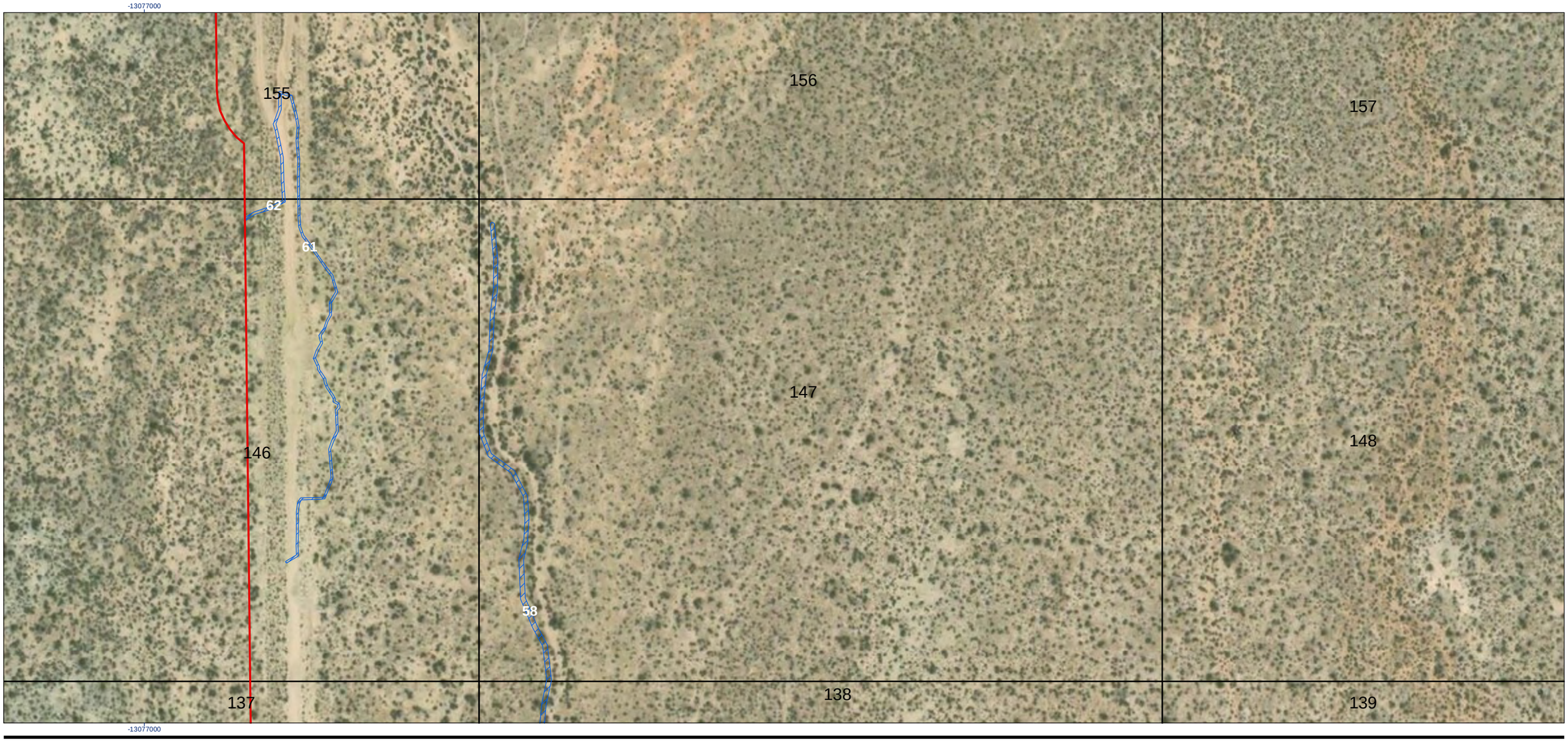
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-112

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-113

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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-13076000

156
157
158
49
147
148
149
138
139
140

-13076000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-114

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

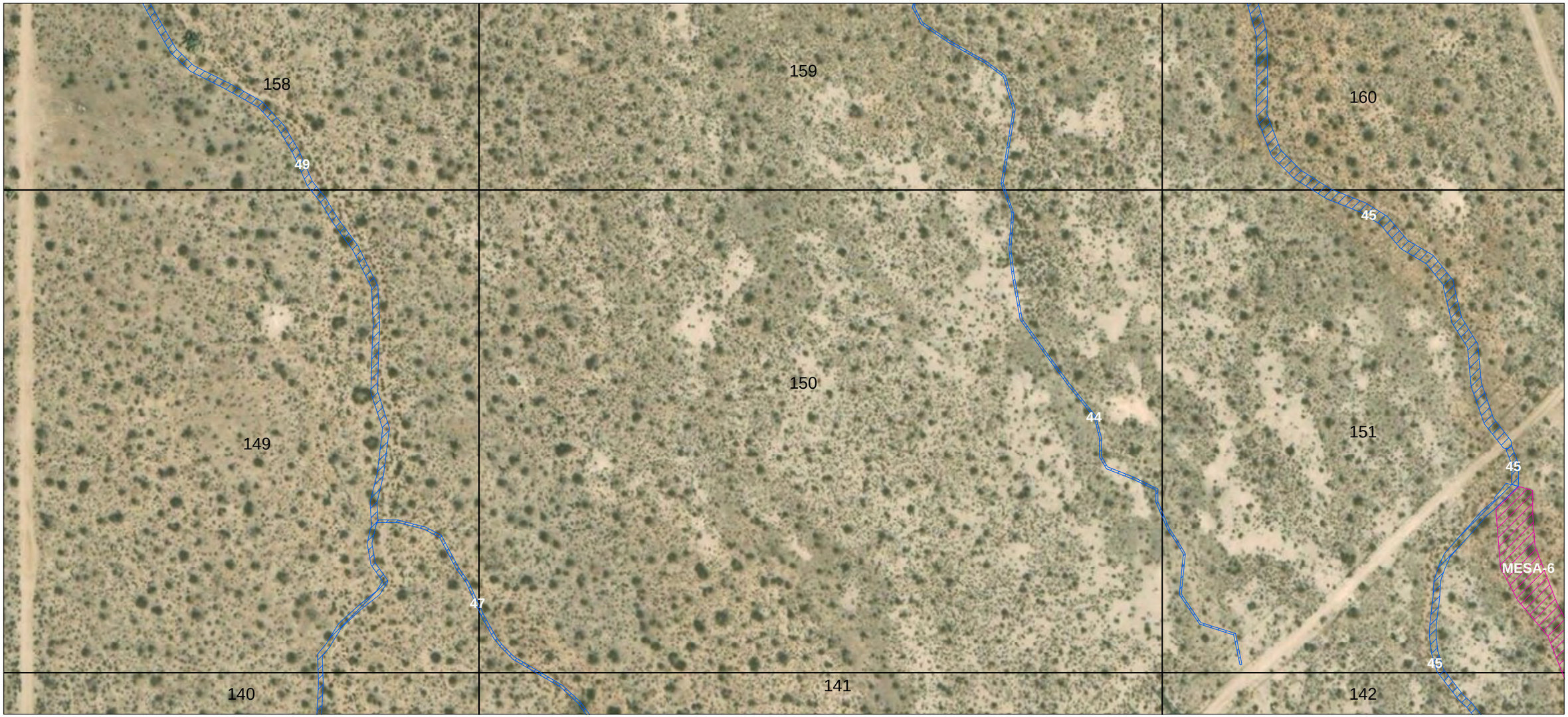
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-115

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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- USACE Non-Wetland Waters of the U.S.
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N

Stantec

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IR Review by MW on 2020-04-07

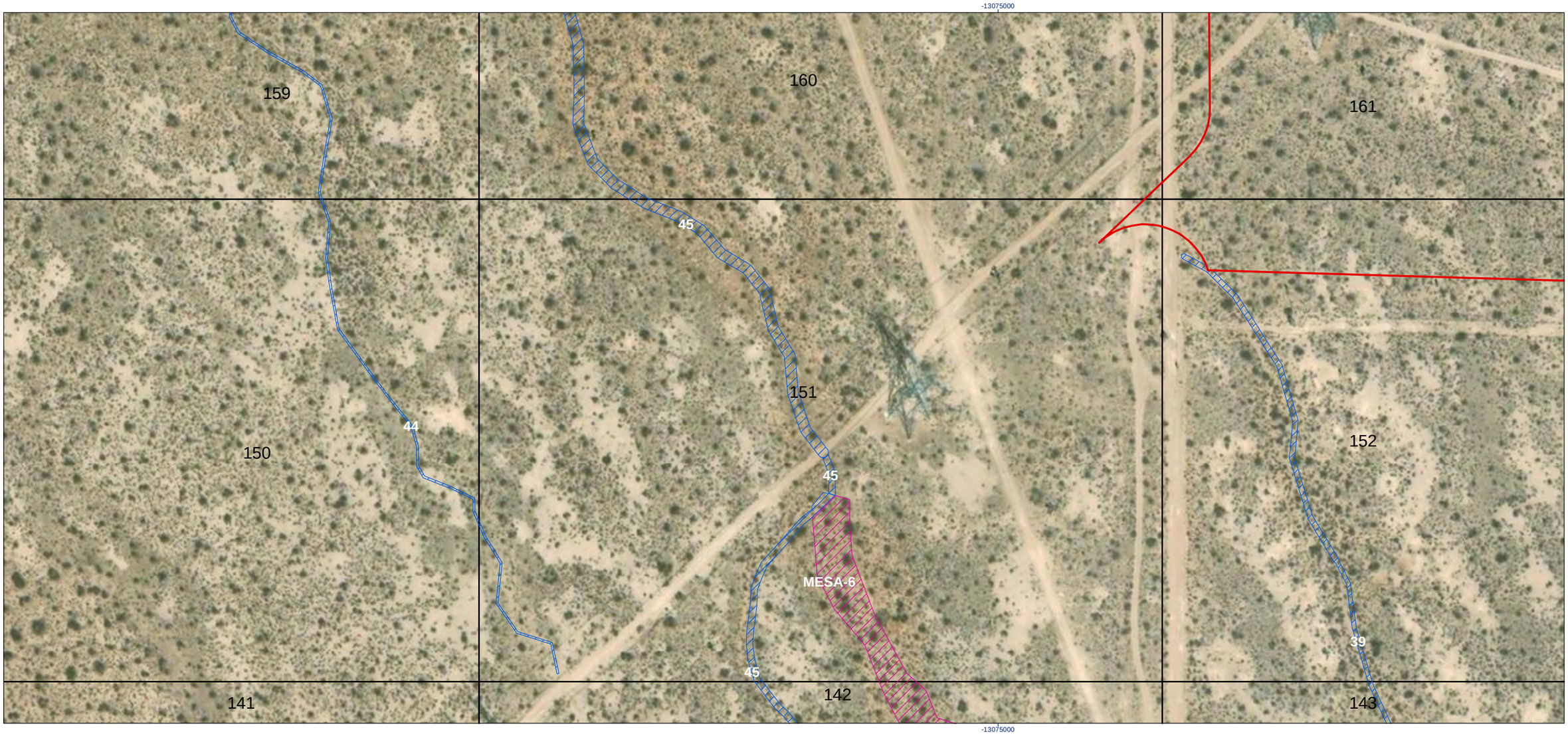
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-116

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-117

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-118

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

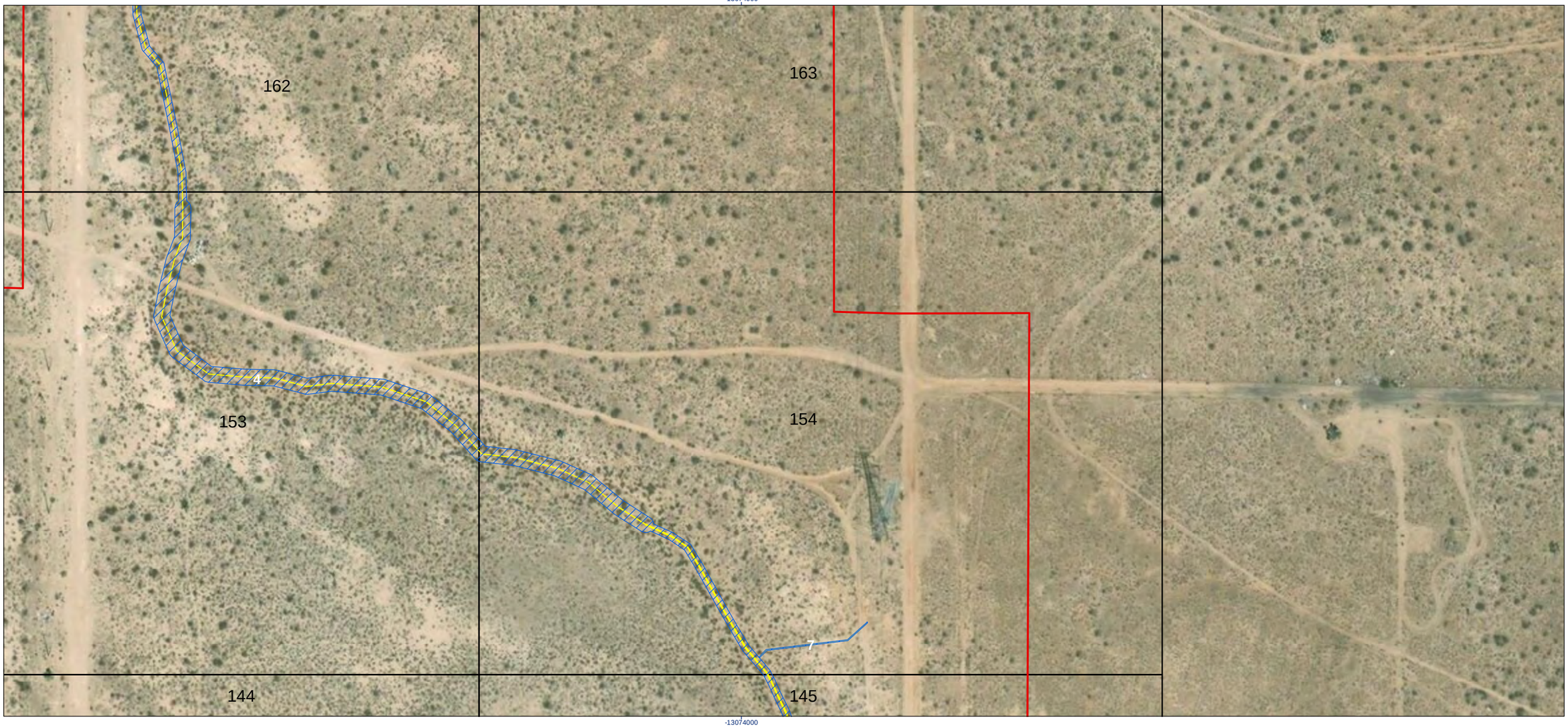
sPower - Baldy Mesa Solar Project

Figure No.
4-119

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-120

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-121

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-122

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000



-13073000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location	Prepared by JV on 2020-04-05
	TR by PM on 2020-04-07
Adelanto, CA	IR Review by MW on 2020-04-07
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-123

Title

Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

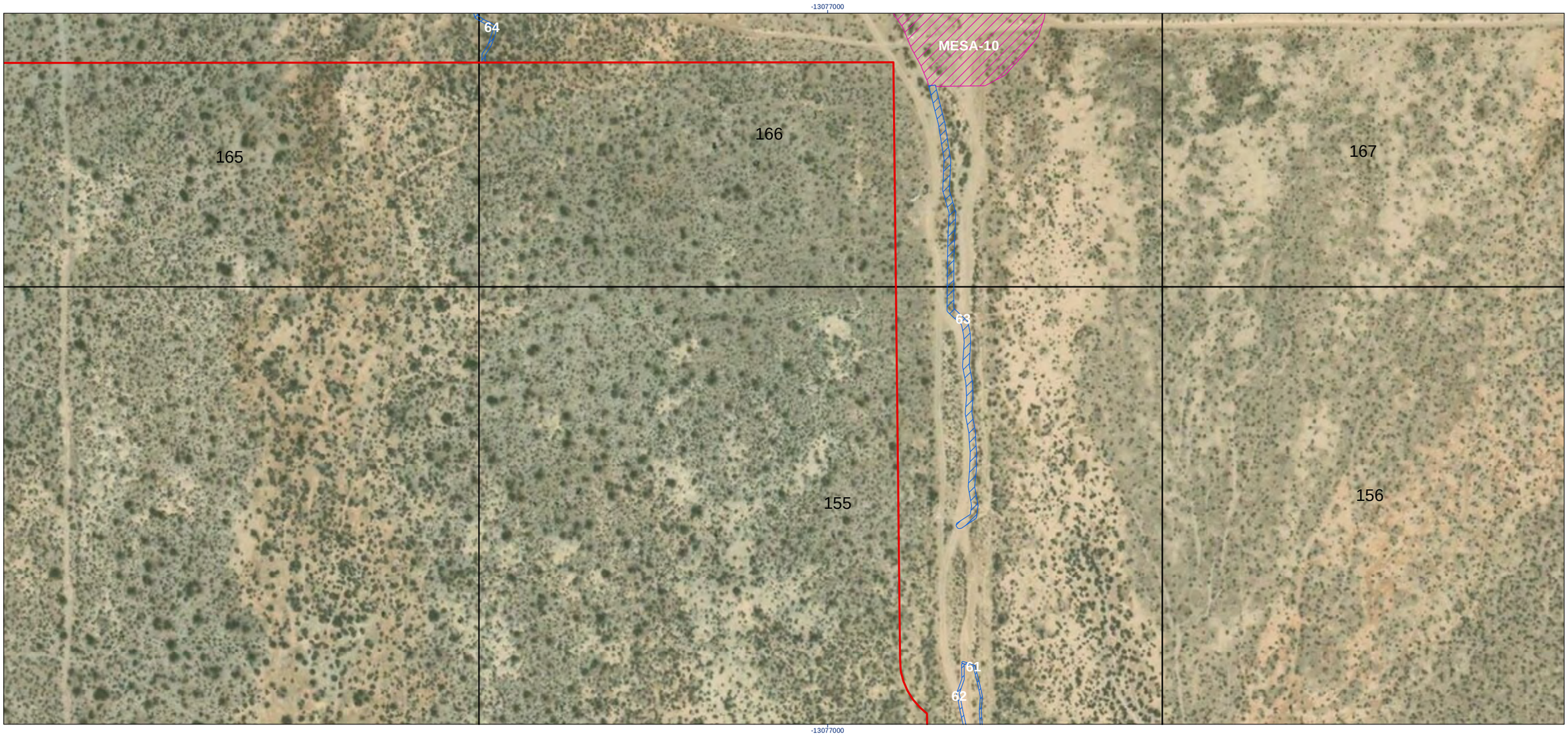
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-124

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-125

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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TR by PM on 2020-04-07
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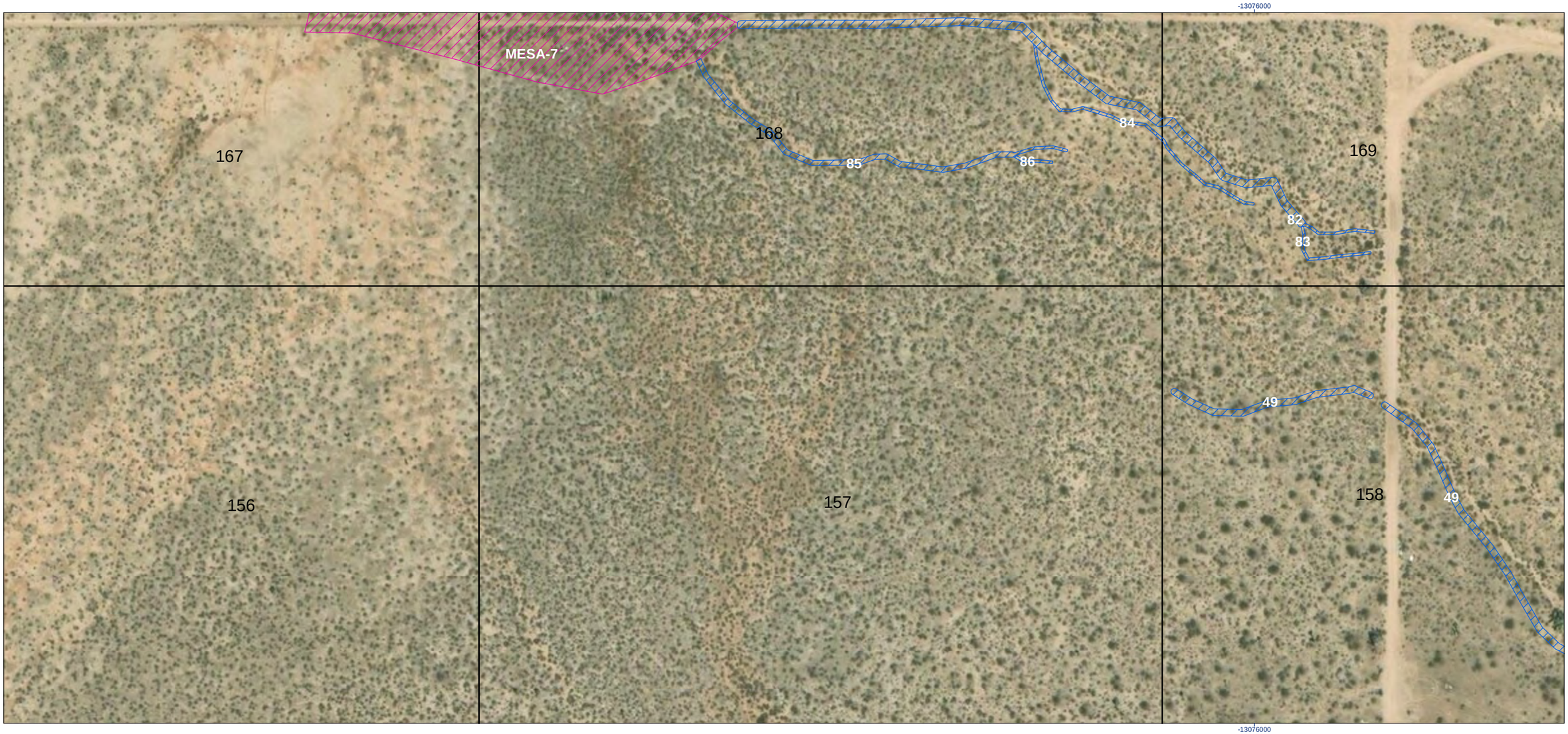
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-126

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-127

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-128

Title
Jurisdicitonal Features

Notes
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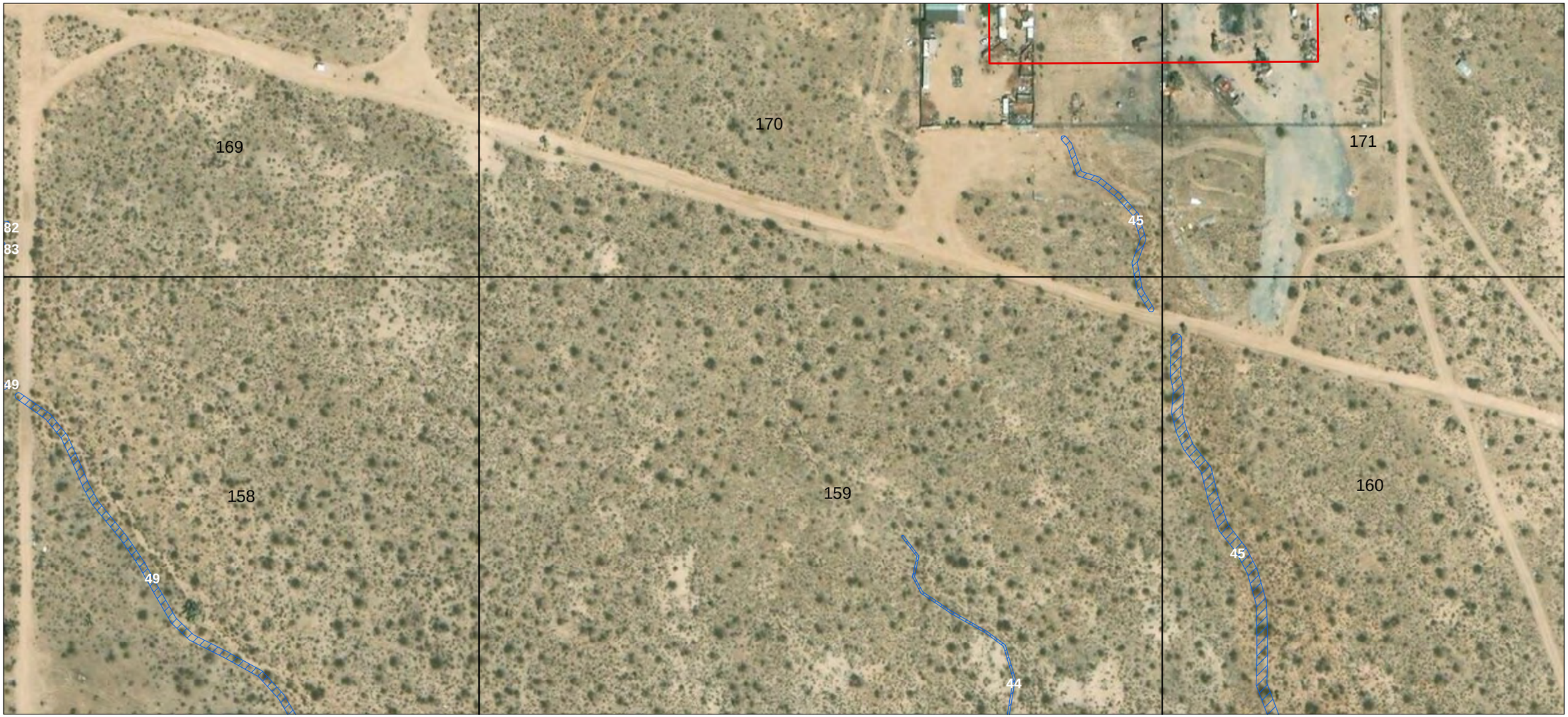

- Map Grid
- Survey Area - Gen-Tie Options
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-129

Title
Jurisdicitonal Features



- Map Grid
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-130

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-131

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-132

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
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- CDFW MESA Waters

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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-133

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-134

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-135

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000



-13073000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-136

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-137

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13078000

4112000

175

176

164

165

4112000

-13078000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-138

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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Stantec

Project Location
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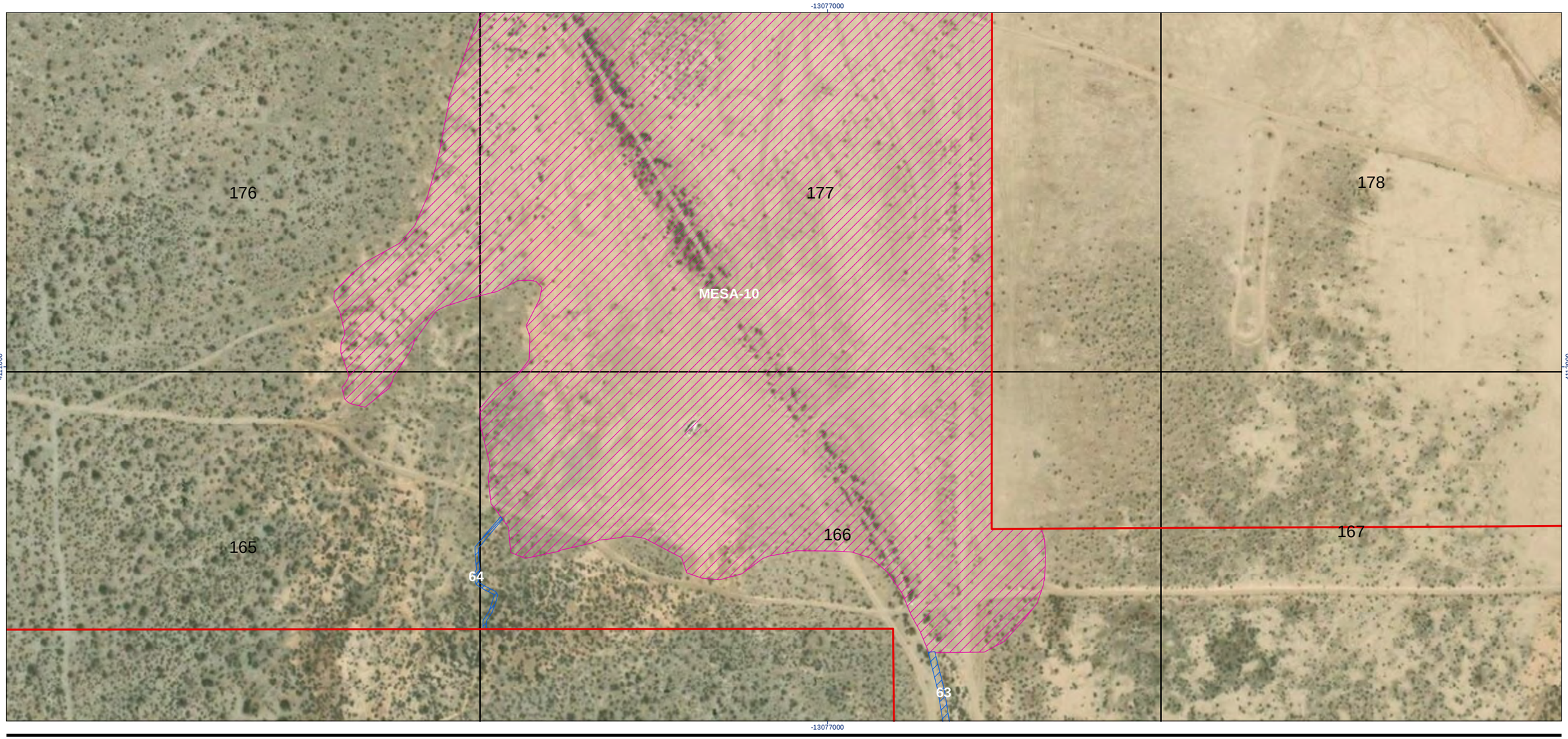
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-139

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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N

Stantec

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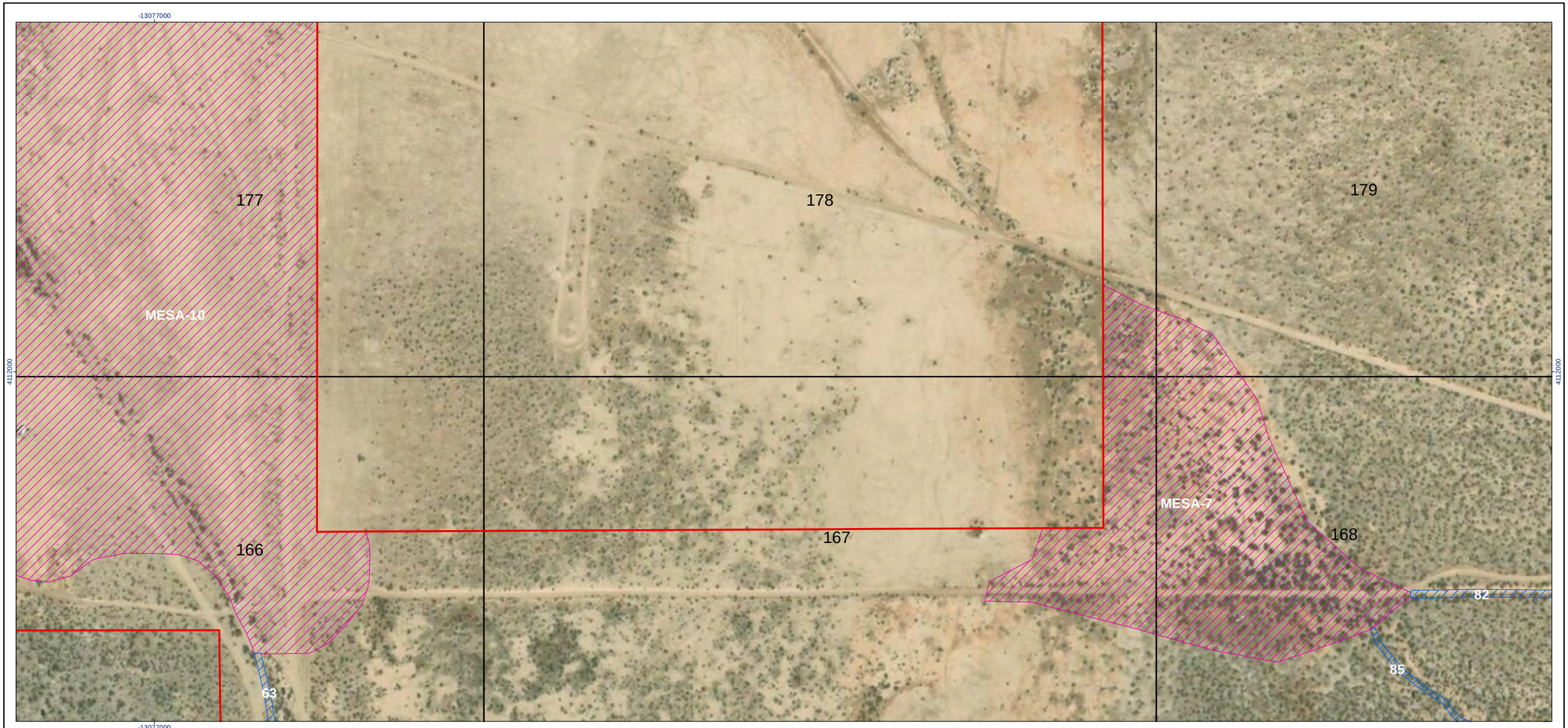
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-140

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
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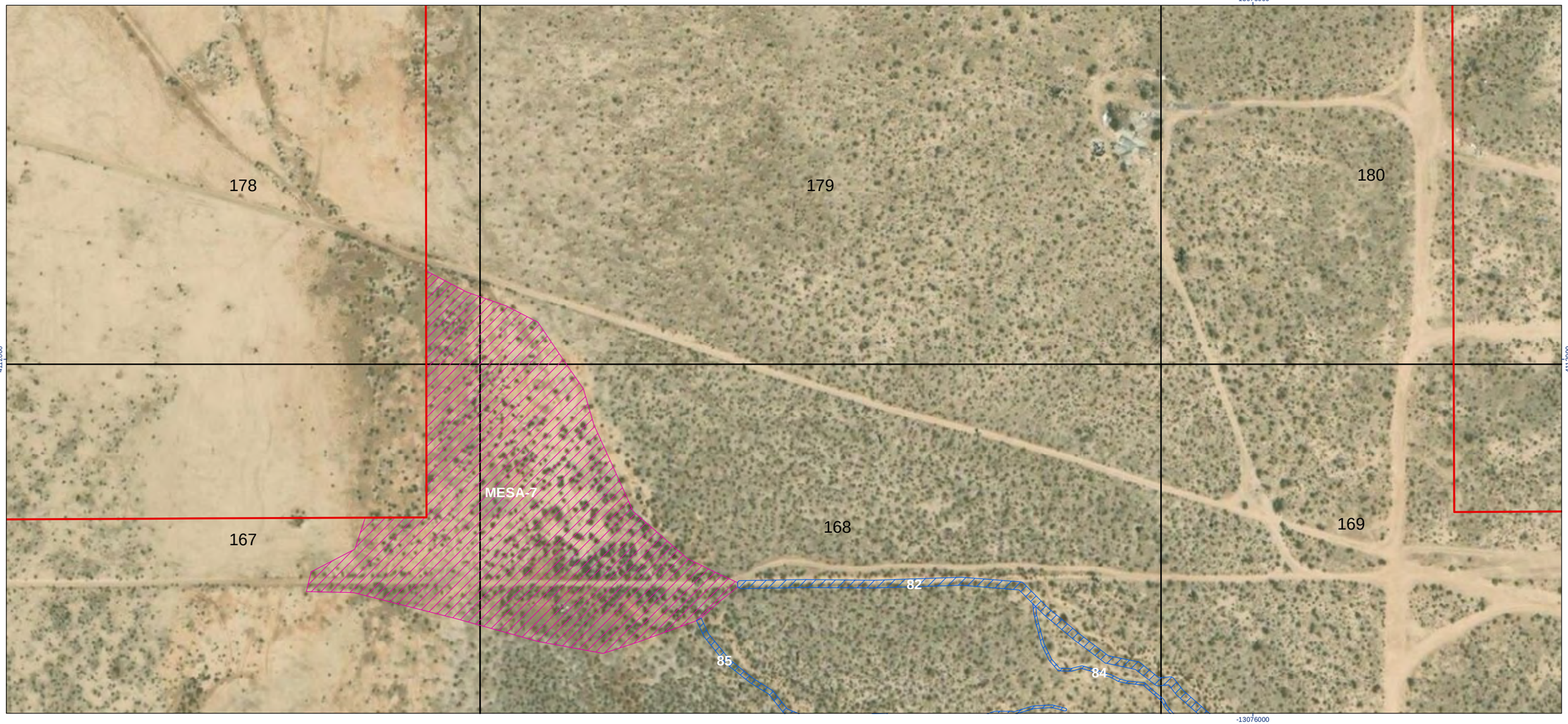
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-141

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-142

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13076000

4112000

179

180

181

168

169

170

MESA-7

82

85

84

-13076000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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N

Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-143

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-144

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

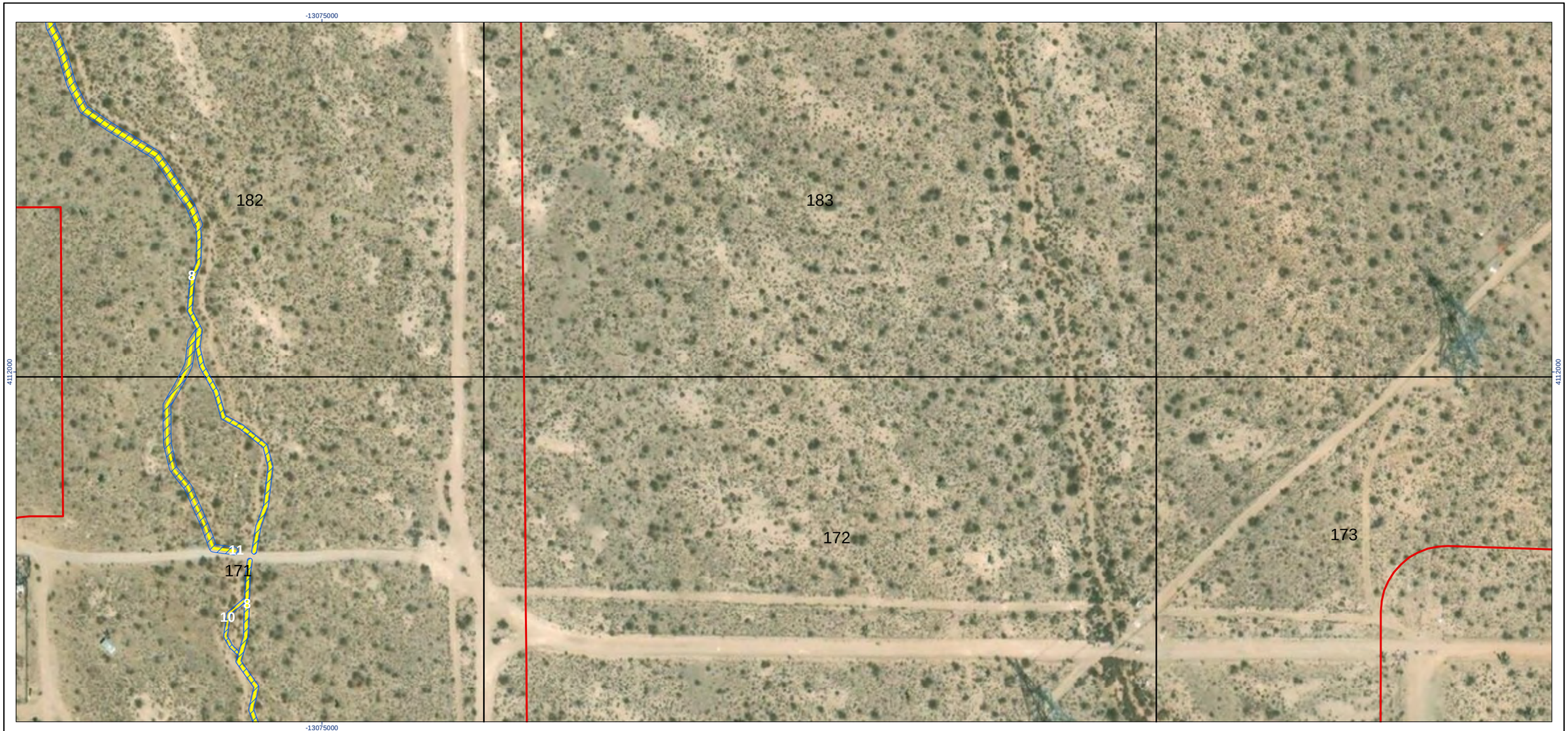
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-145

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-146

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-147

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000

4112000



-13074000

4112000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Stantec

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-148

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000

4112000



-13074000

4112000

- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-149

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-150

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000

4112000



-13073000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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TR by PM on 2020-04-07
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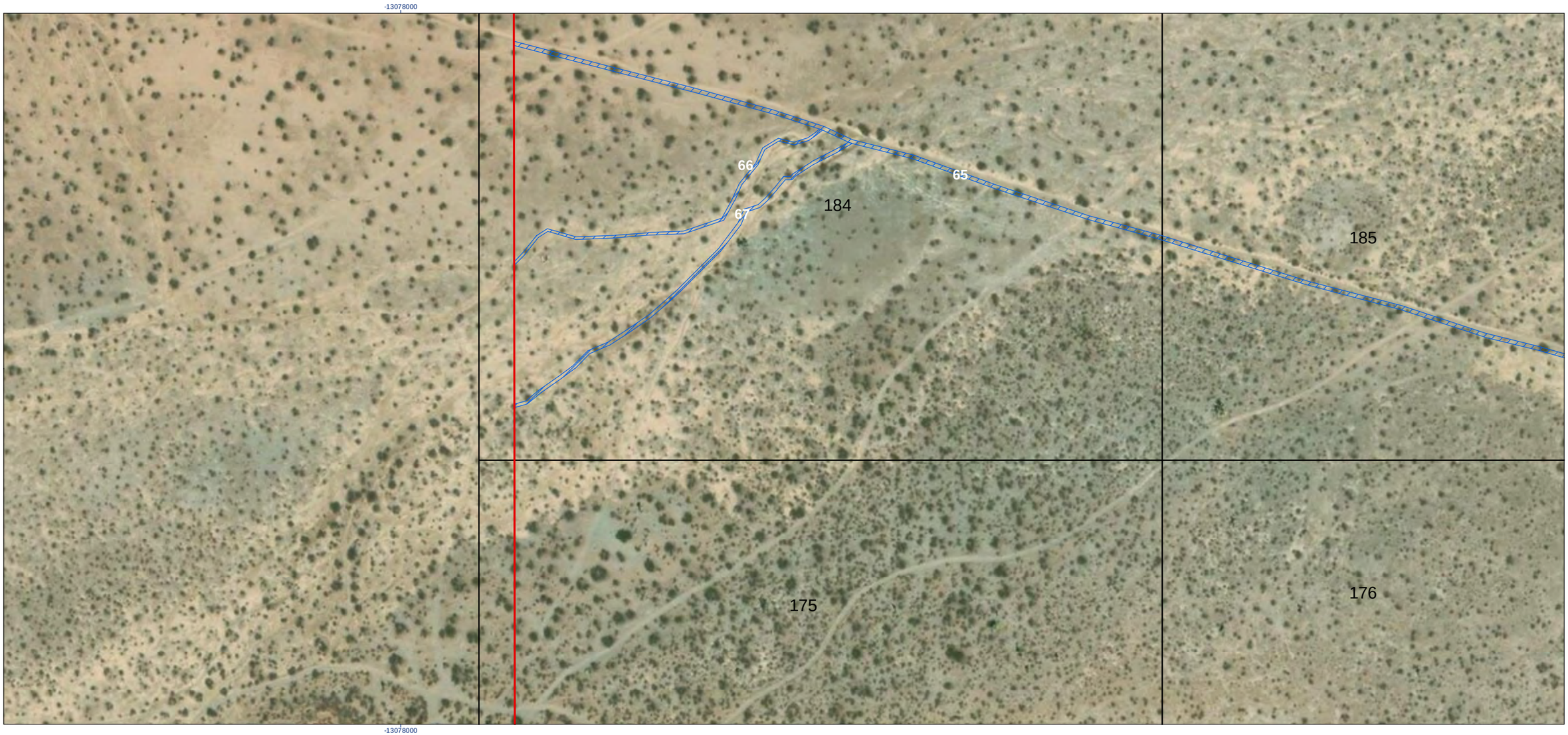
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-151

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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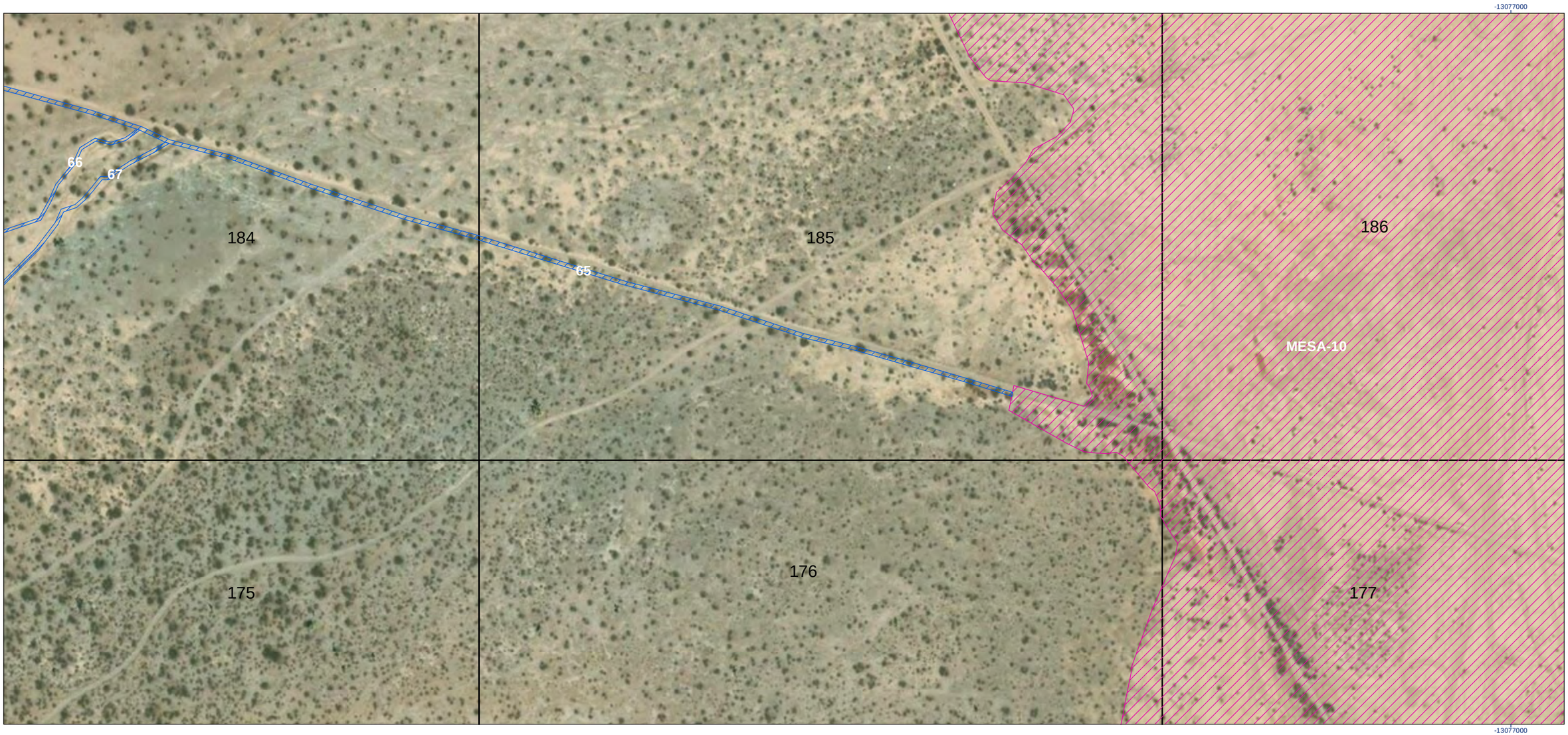
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-152

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
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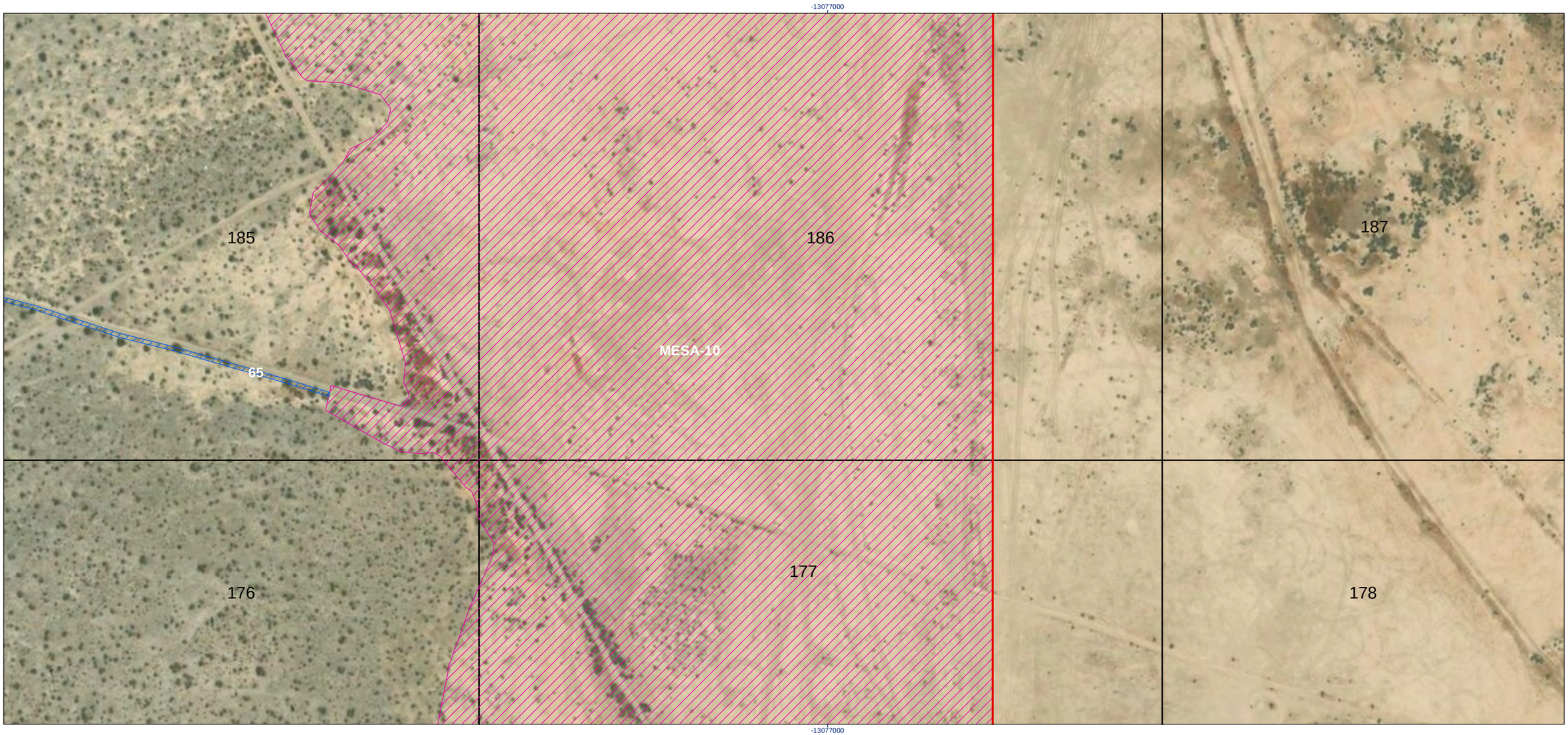
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-153

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

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IR Review by MW on 2020-04-07

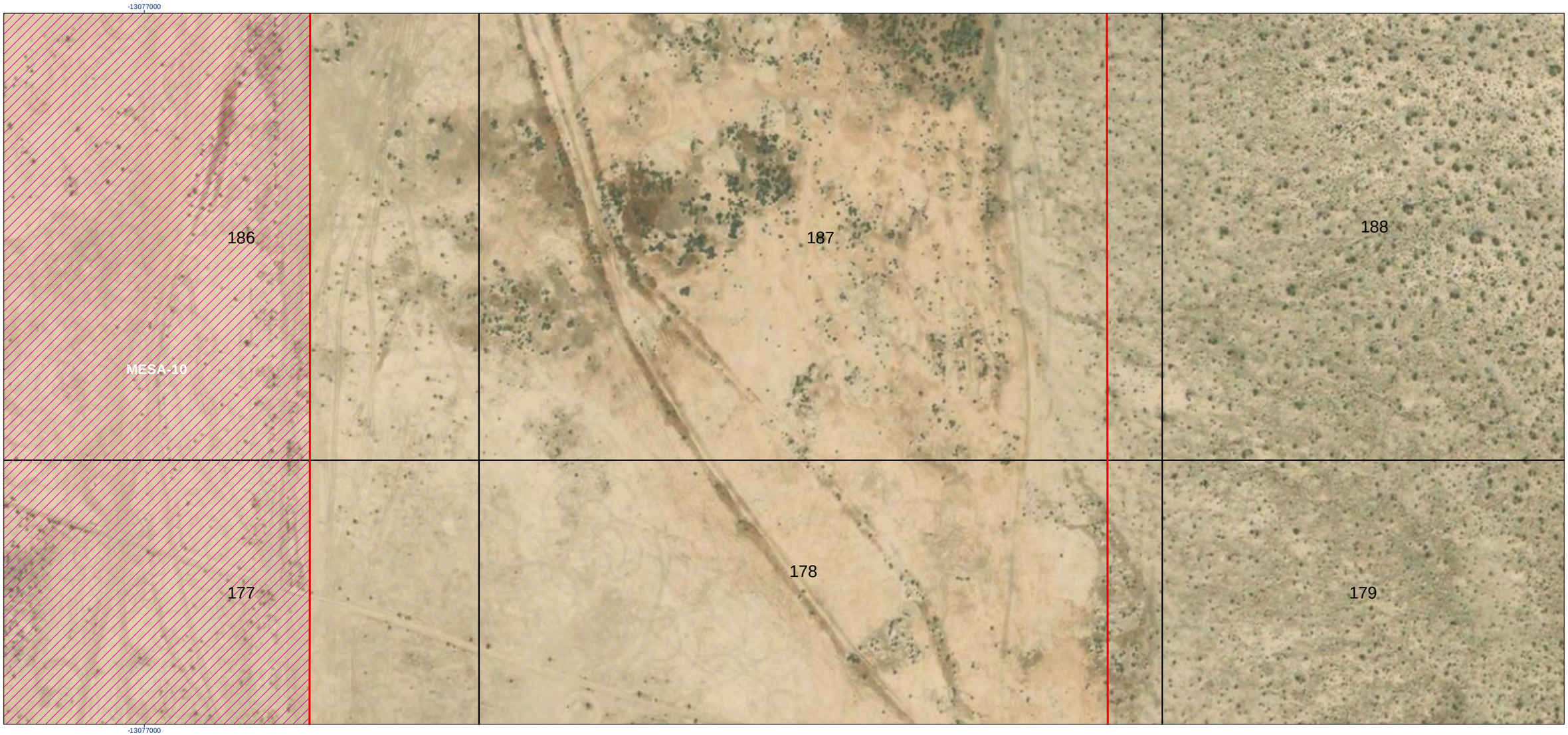
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-154

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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N

Stantec

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Client/Project
185804030

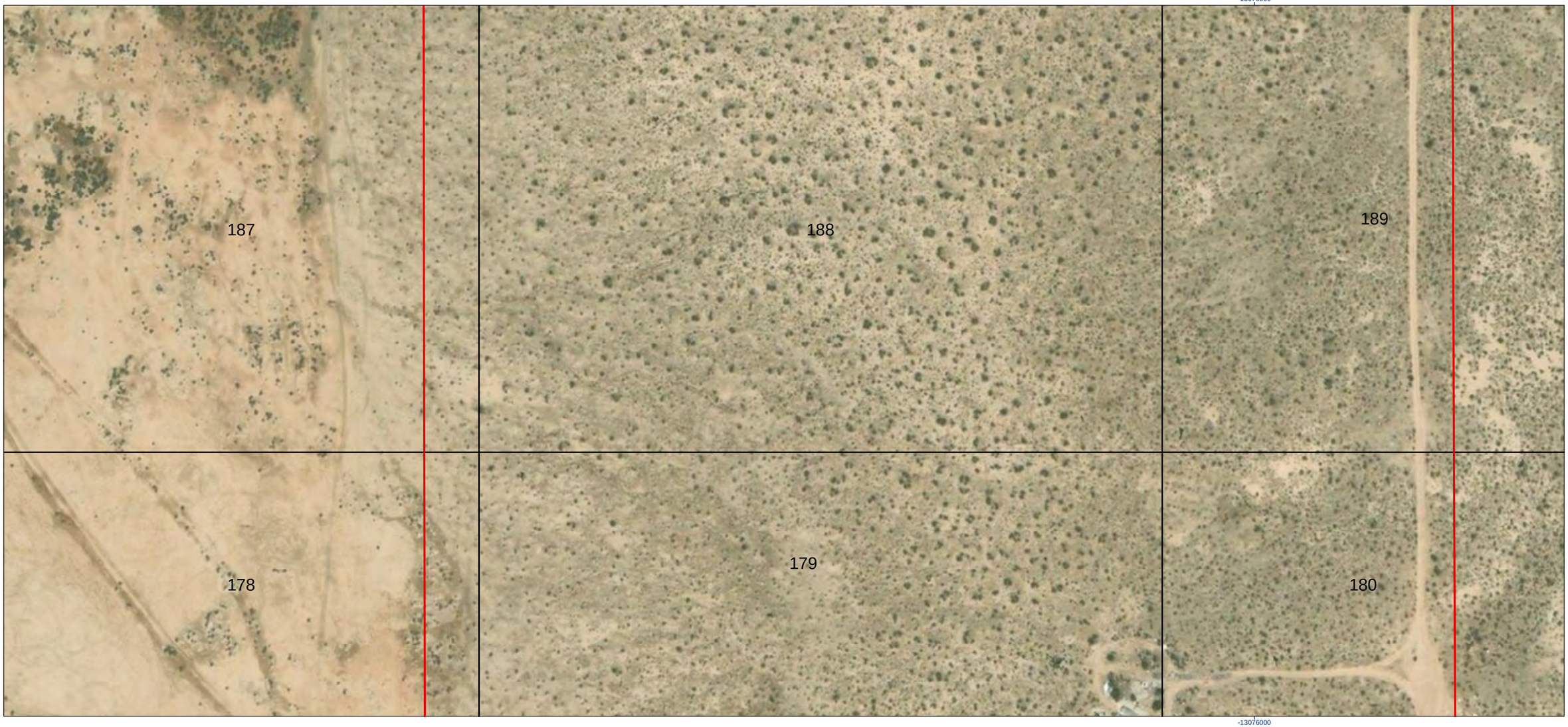
sPower - Baldy Mesa Solar Project

Figure No.
4-155

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13076000



-13076000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-156

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13076000

188

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-13076000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-157

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-158

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000



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Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-159

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
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1:2,210

N

Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-160

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
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0 40 80 metres

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1:2,210

N

Stantec

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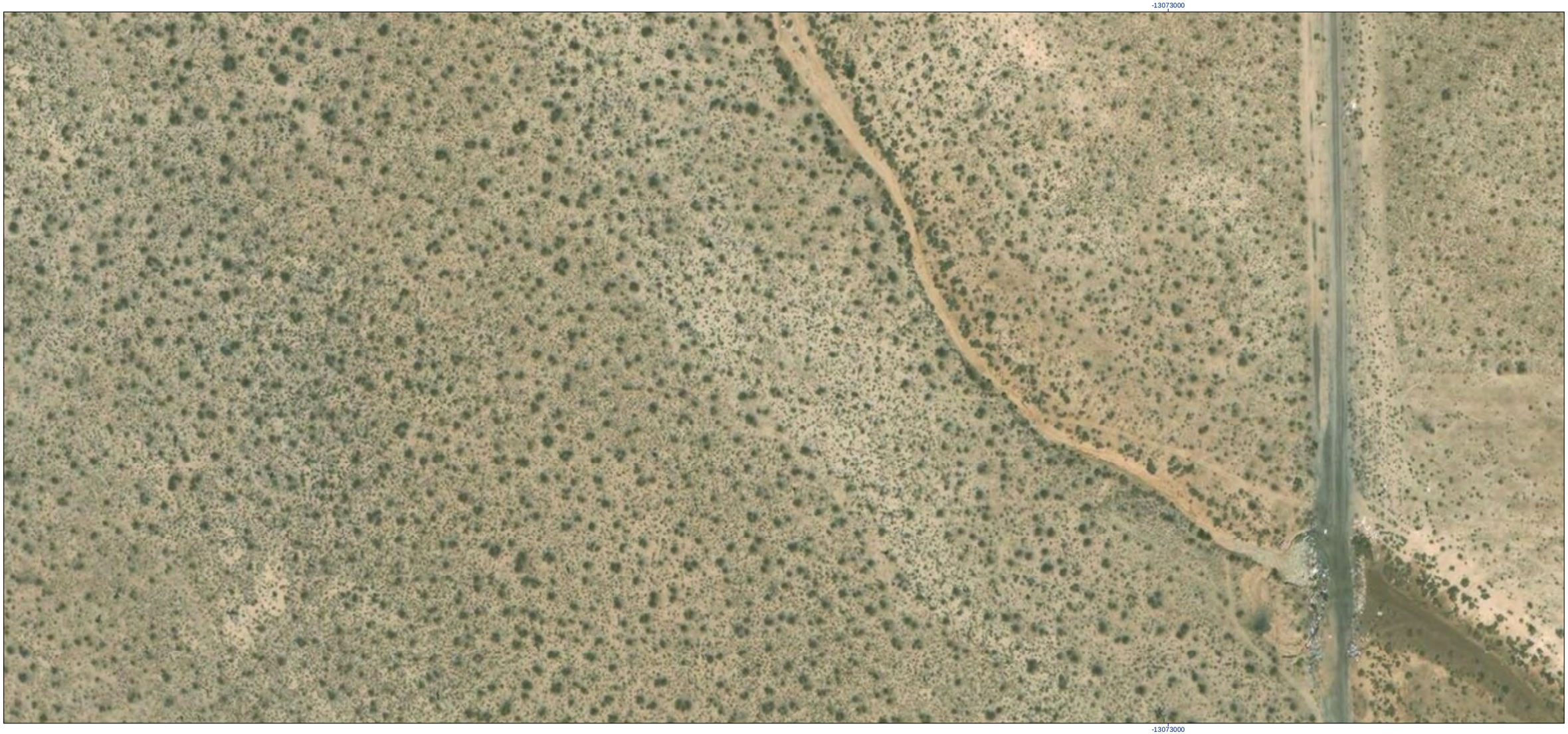
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-161

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-162

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000



-13073000

- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

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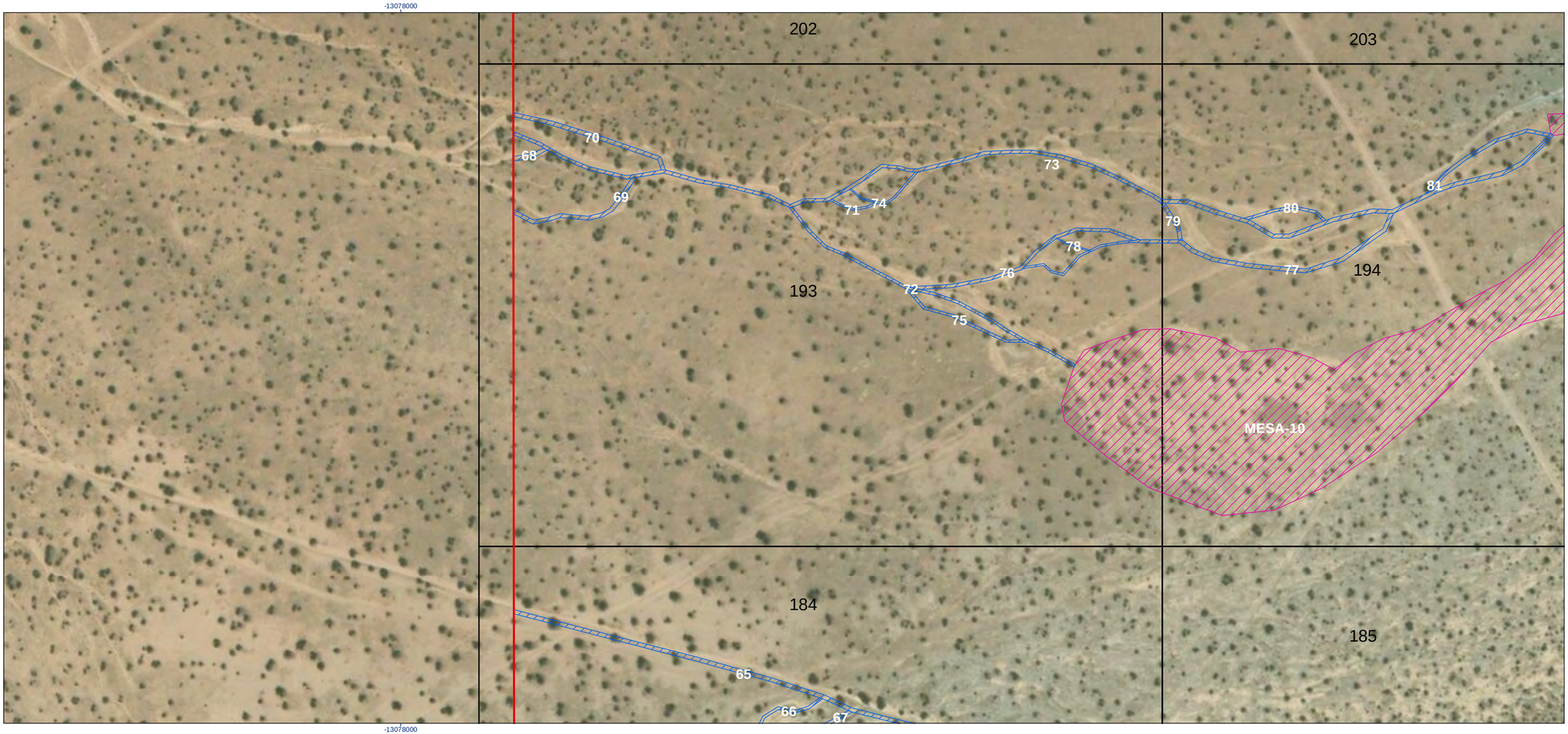
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-163

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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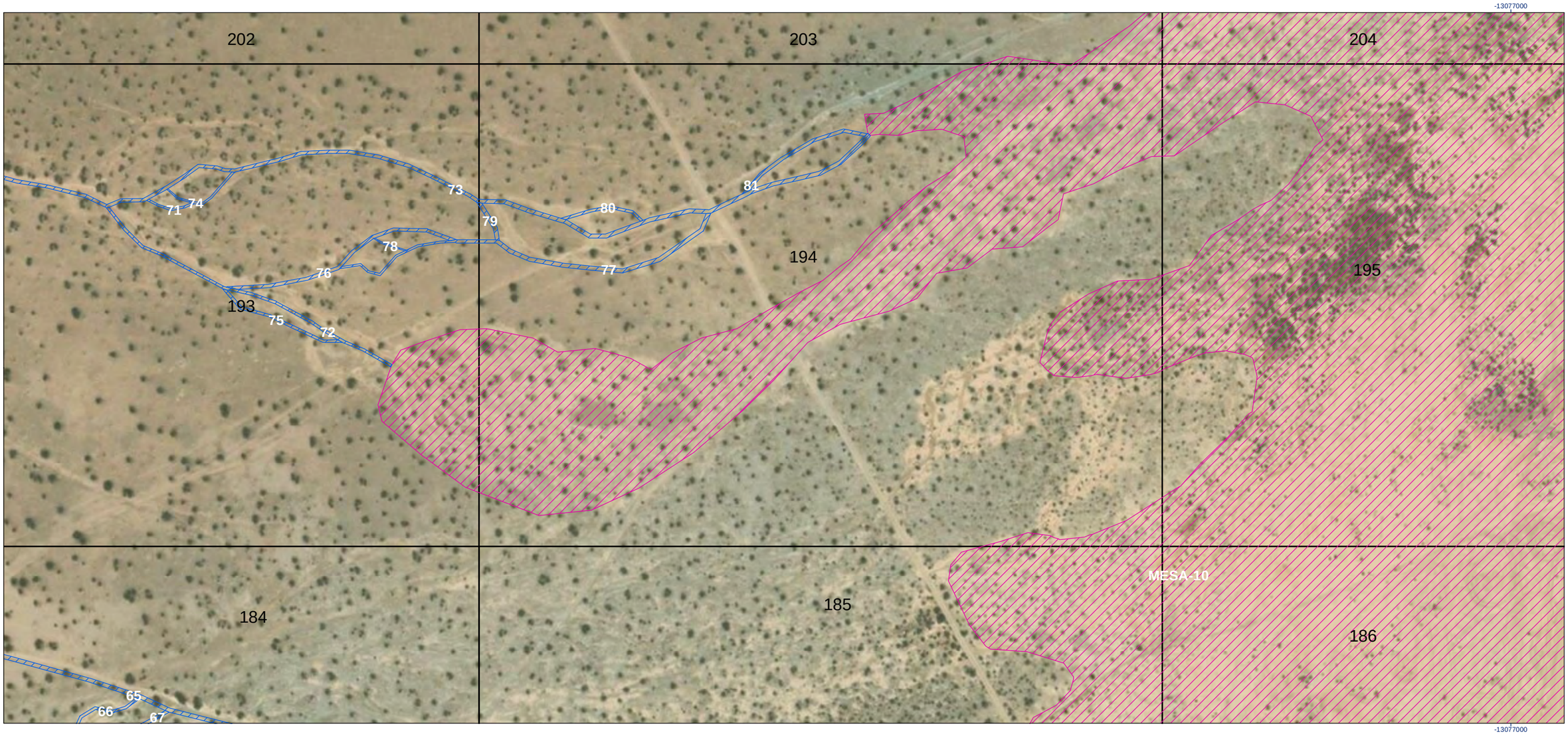
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-164

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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CDFW MESA Waters

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Stantec

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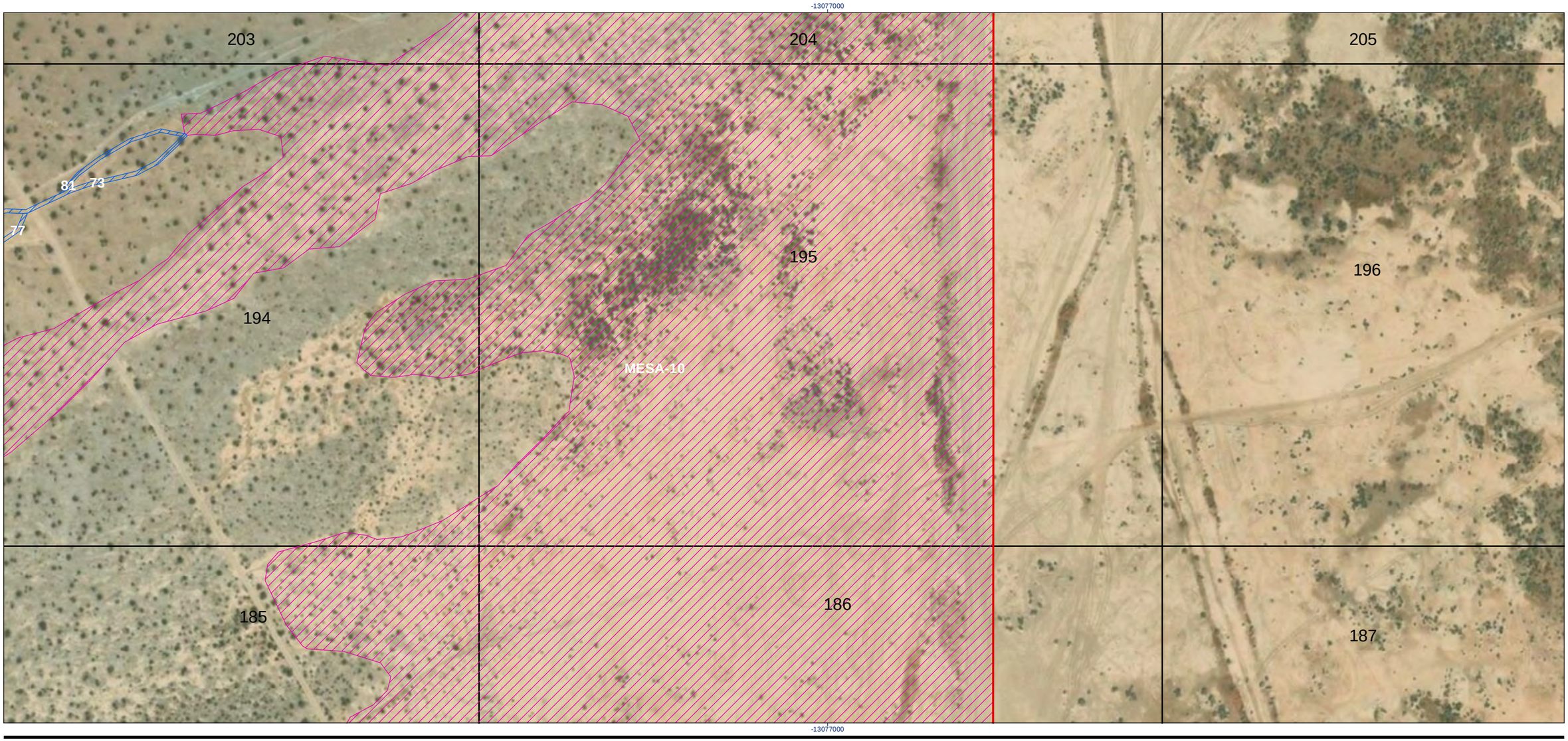
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-165

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-166

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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-13077000

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MESA-10

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-13077000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-167

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13076000

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-13076000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-168

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13076000

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-13076000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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CDFW MESA Waters

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1:2,210

N

Stantec

Project Location
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IR Review by MW on 2020-04-07

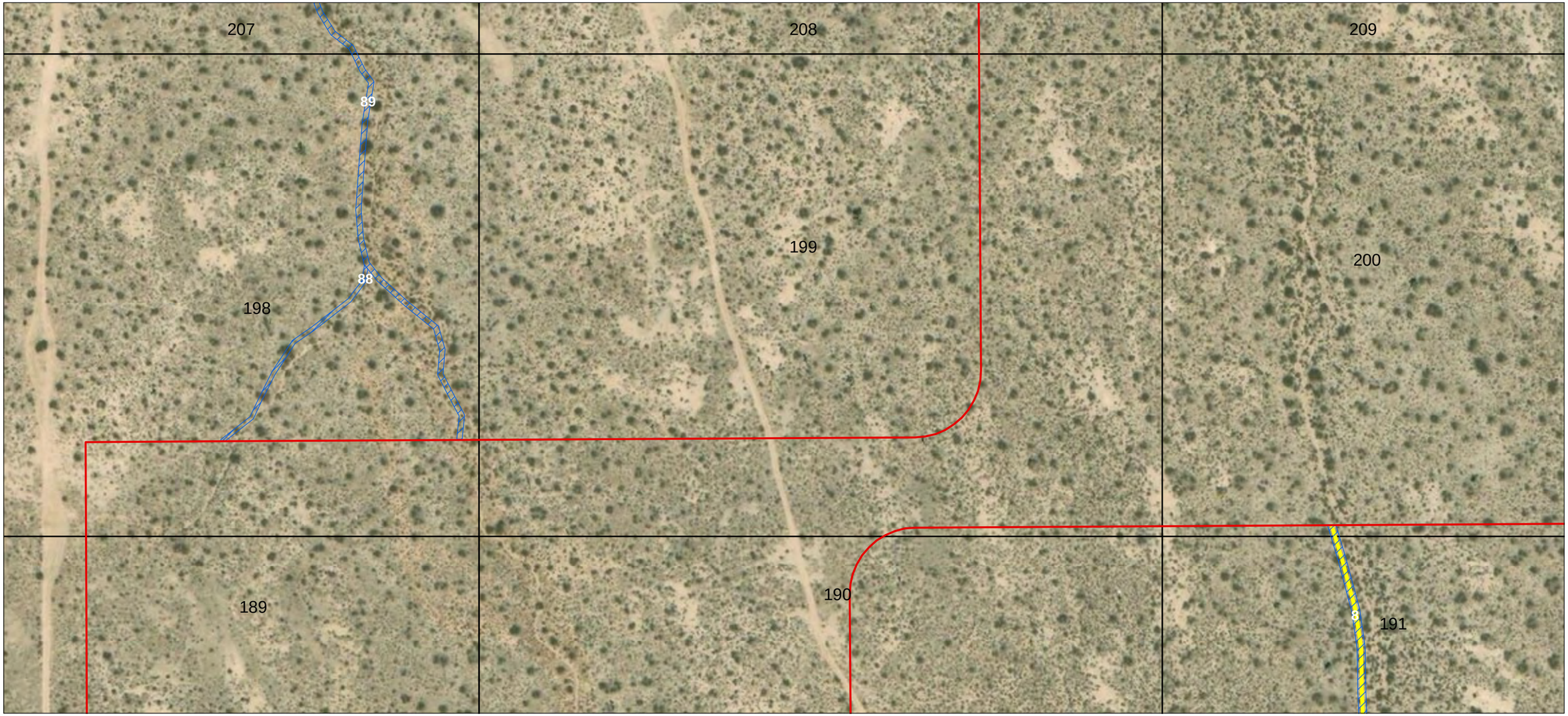
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-169

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

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TR by PM on 2020-04-07
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-170

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13075000

208 209 210

199 200 201

190 191 192

-13075000

- Map Grid
- Survey Area - Gen-Tie Options
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- USACE Non-Wetland Waters of the U.S.
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Stantec

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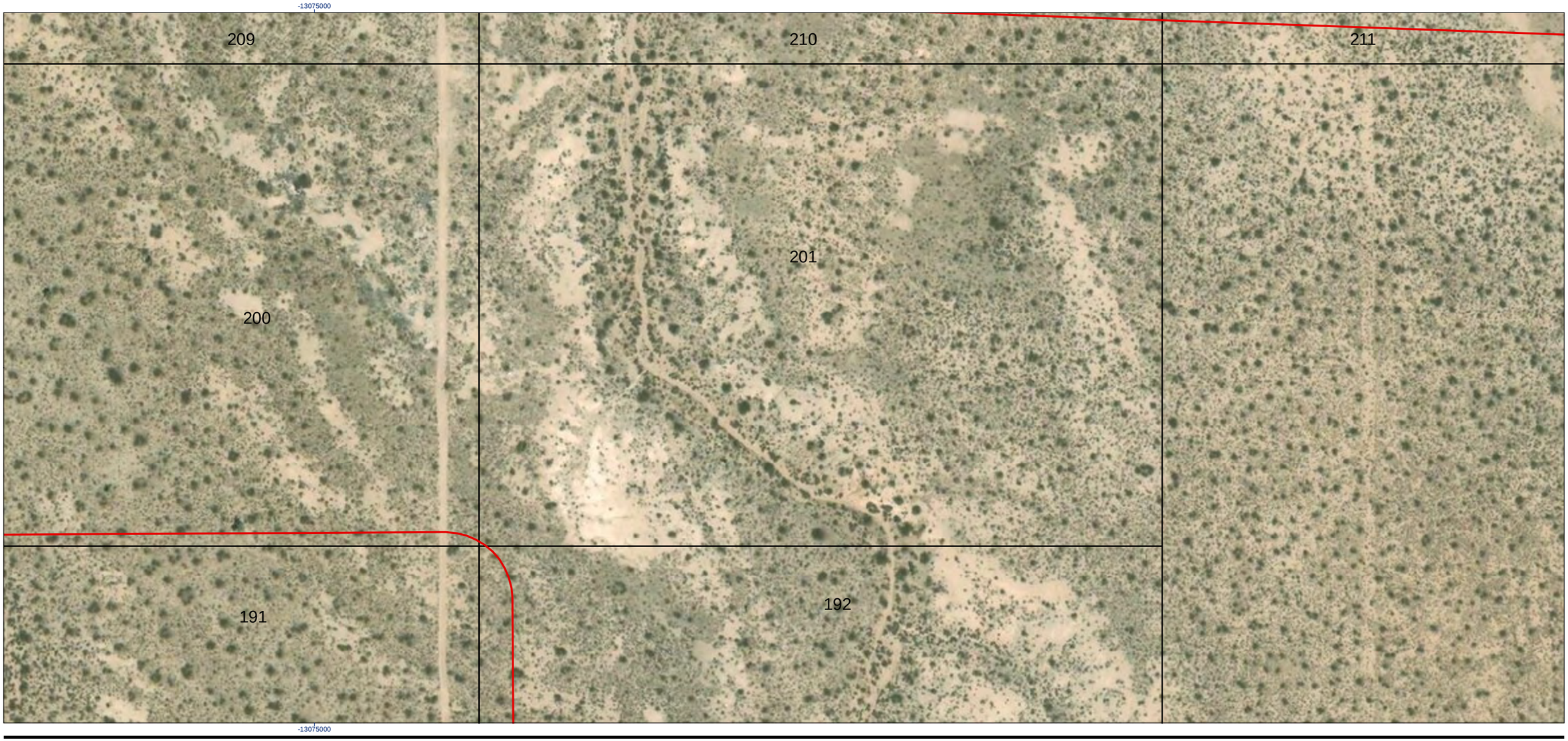
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-171

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-172

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000

211

212



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-173

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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CDFW MESA Waters

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1:2,210

N

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-174

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-175

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13073000



-13073000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-176

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13078000

4113000

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96

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MESA-10

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-13078000

4113000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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sPower - Baldy Mesa Solar Project

Figure No.
4-177

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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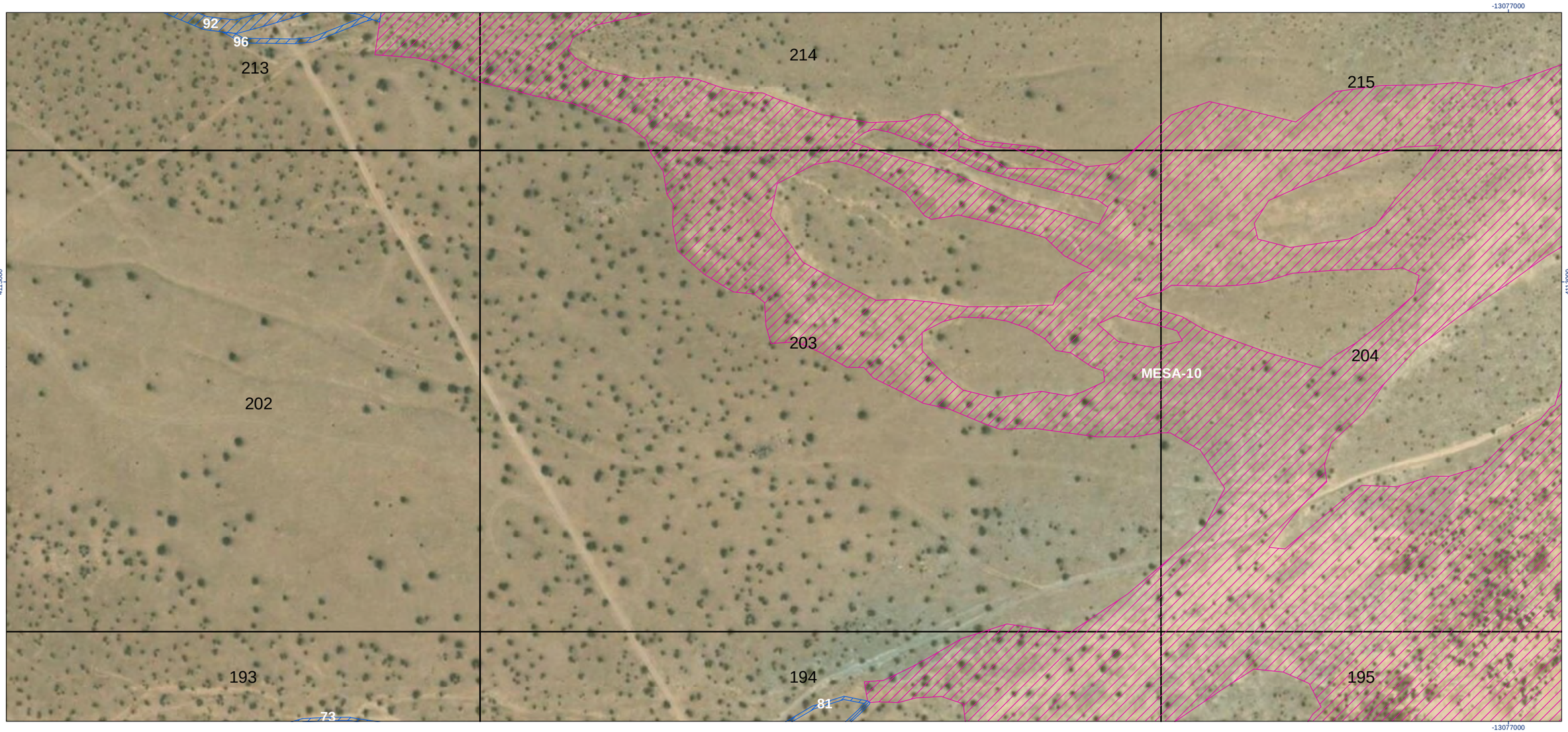

- Map Grid
- Survey Area - Gen-Tie Options
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Client/Project
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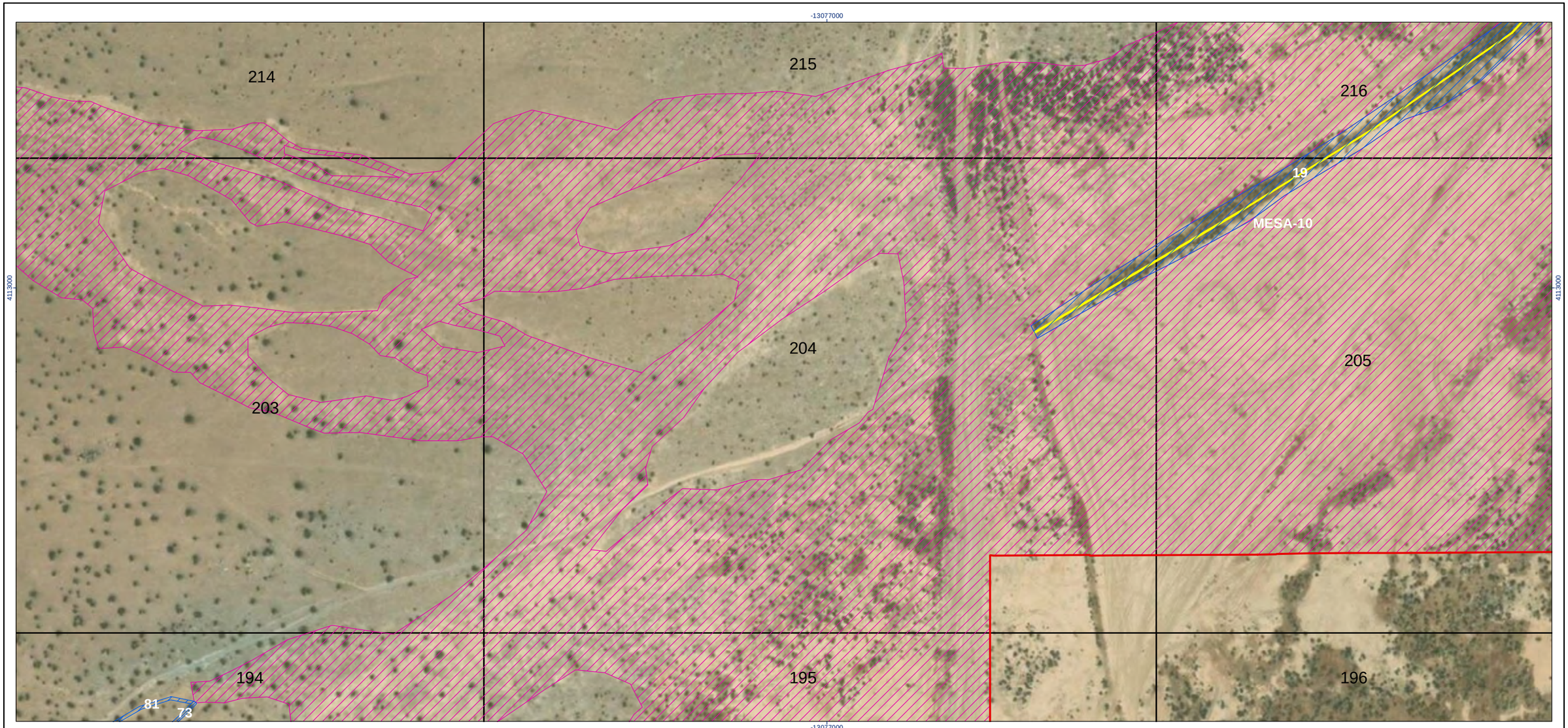
sPower - Baldy Mesa Solar Project

Figure No.
4-178

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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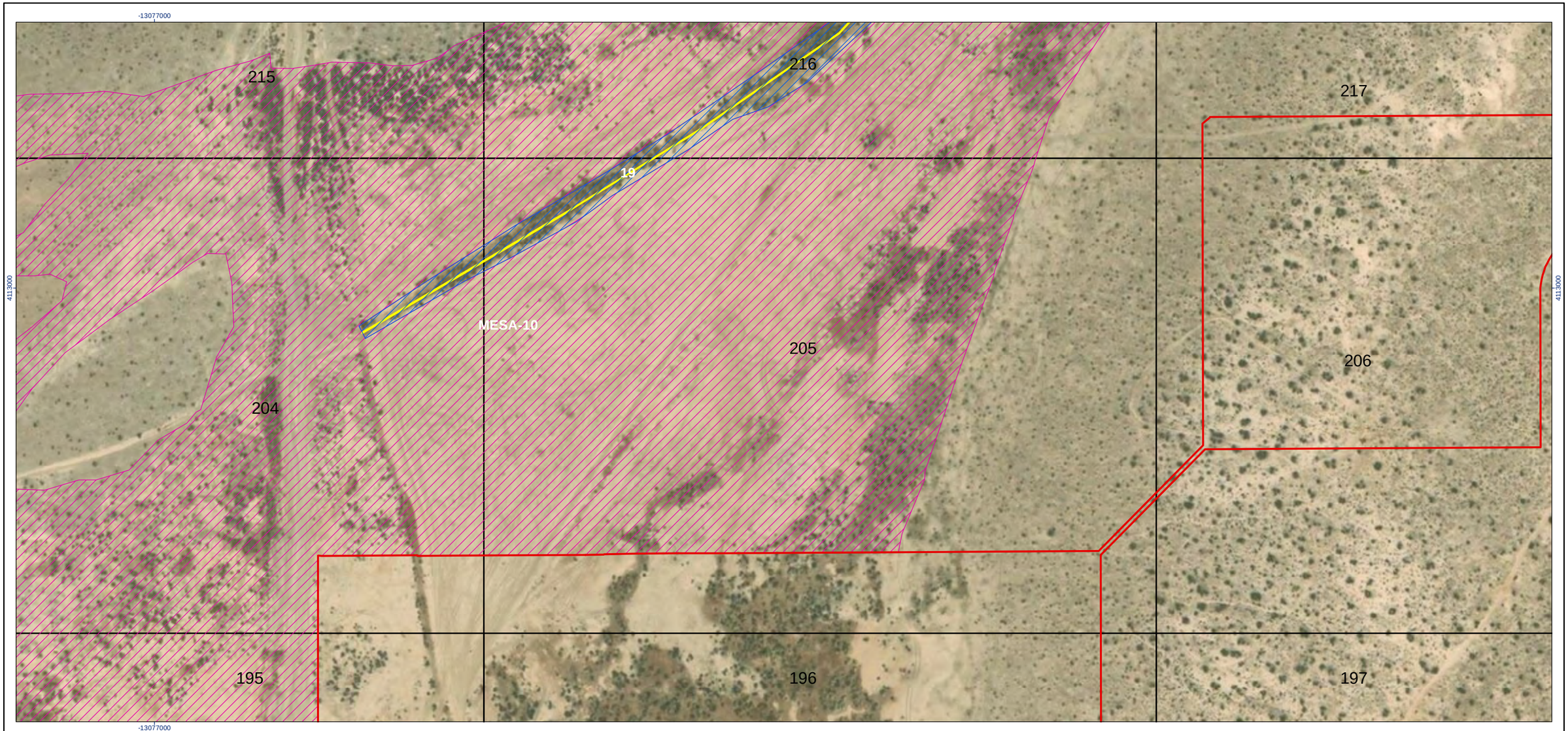
sPower - Baldy Mesa Solar Project

Figure No.
4-179

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

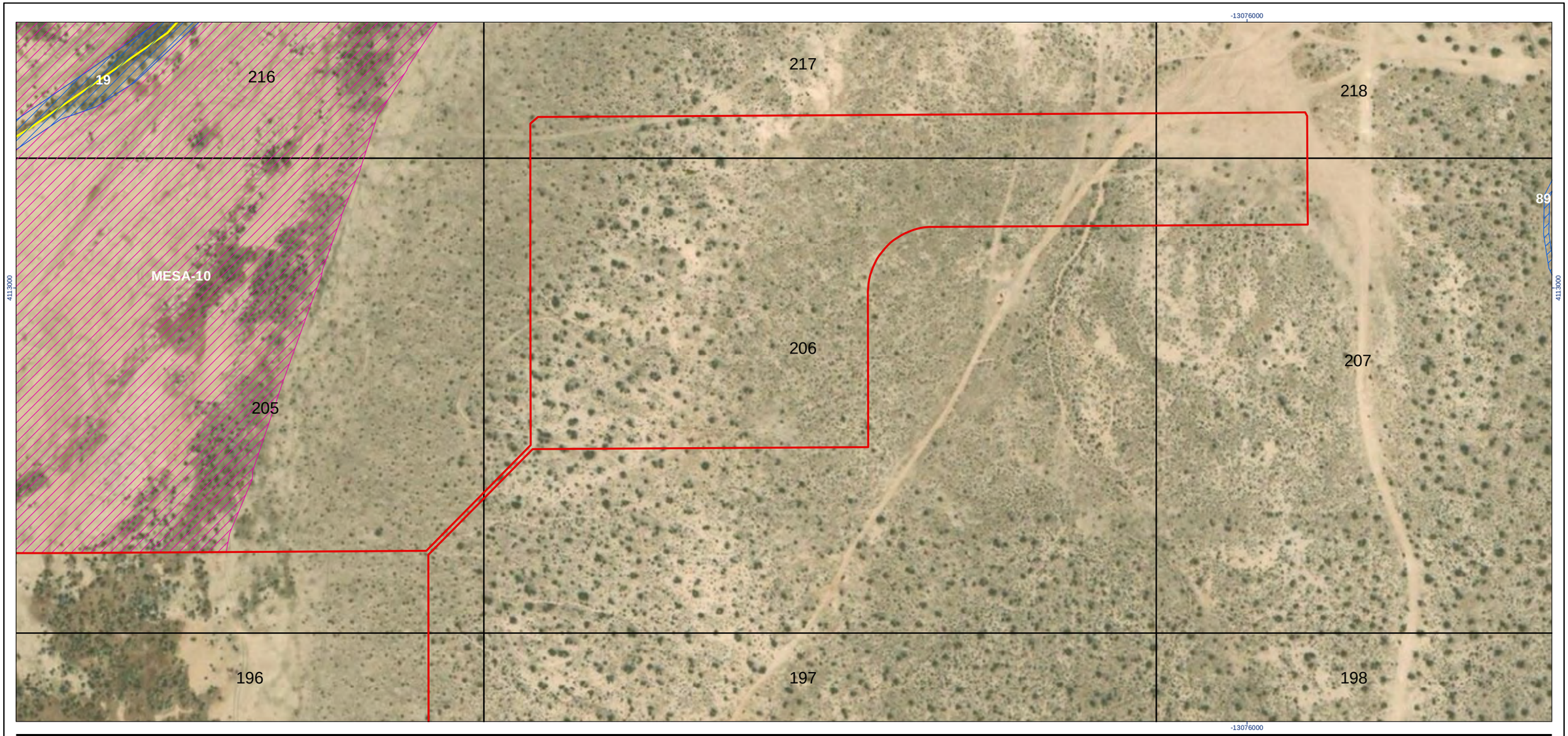
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-180

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-181

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

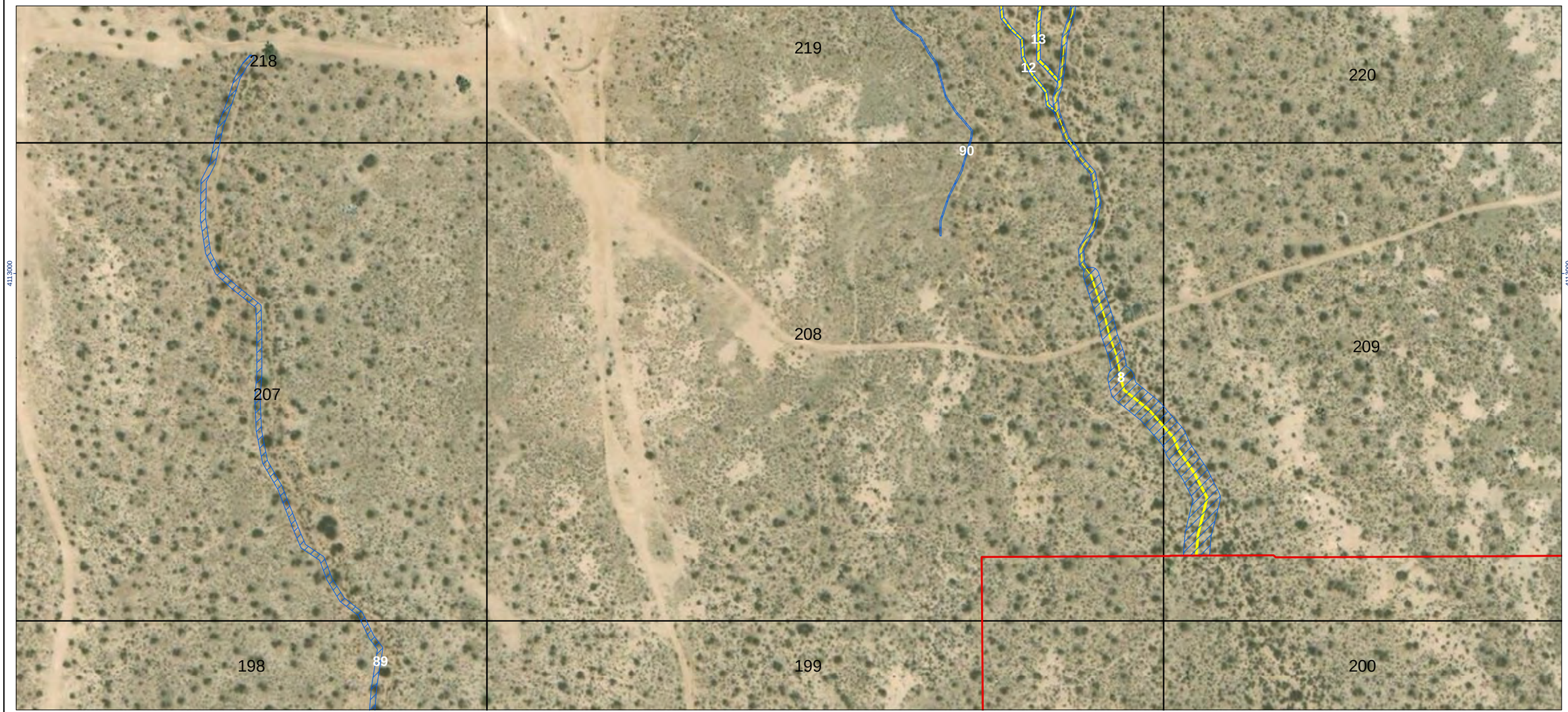
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-182

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-183

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-184

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
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0 40 80 metres

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Stantec

Project Location	Prepared by JV on 2020-04-05 TR by PM on 2020-04-07 IR Review by MW on 2020-04-07
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-185

Title

Jurisdicitonal Features

Notes

1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-186

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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N

Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-187

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
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Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-188

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
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N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-189

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
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Stantec

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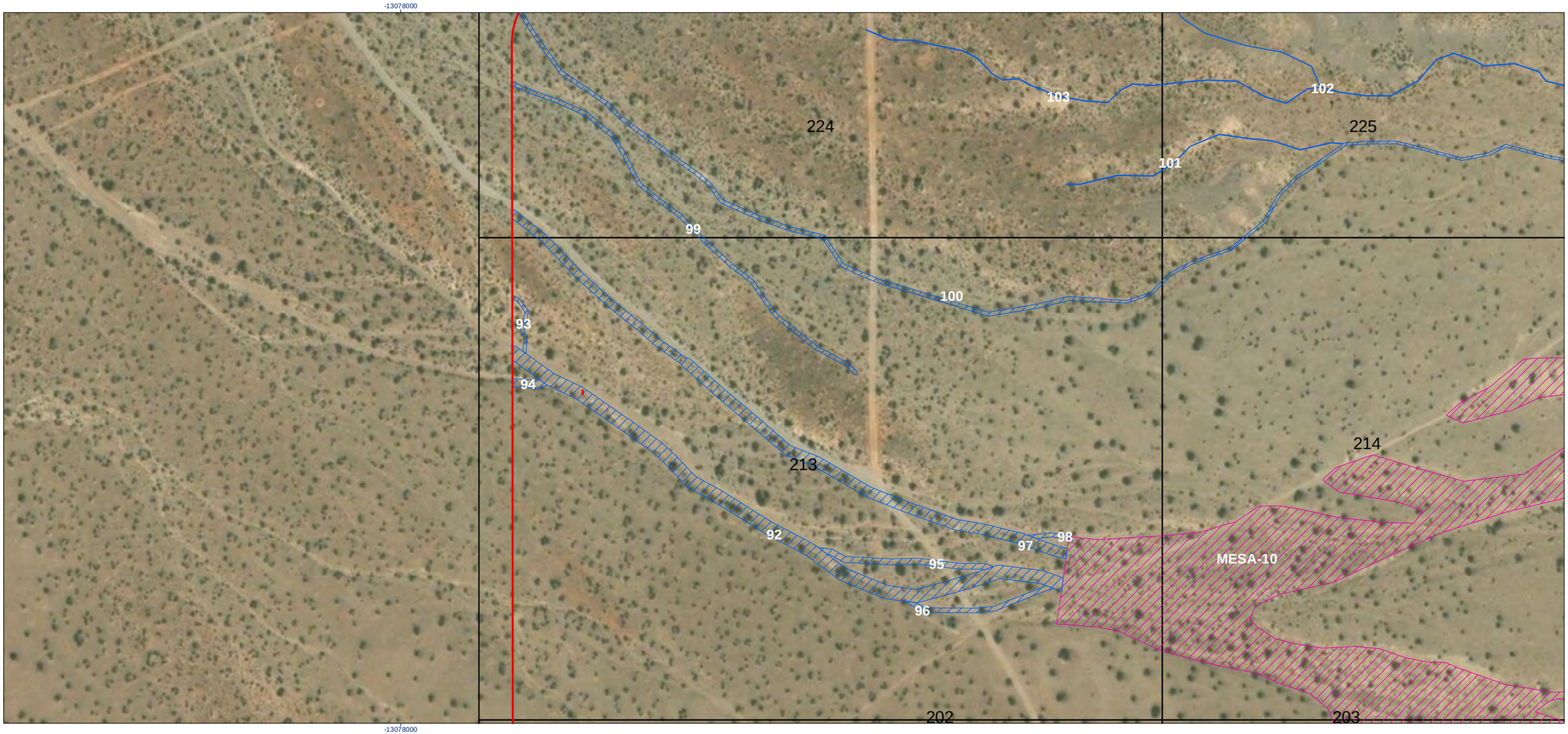
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-190

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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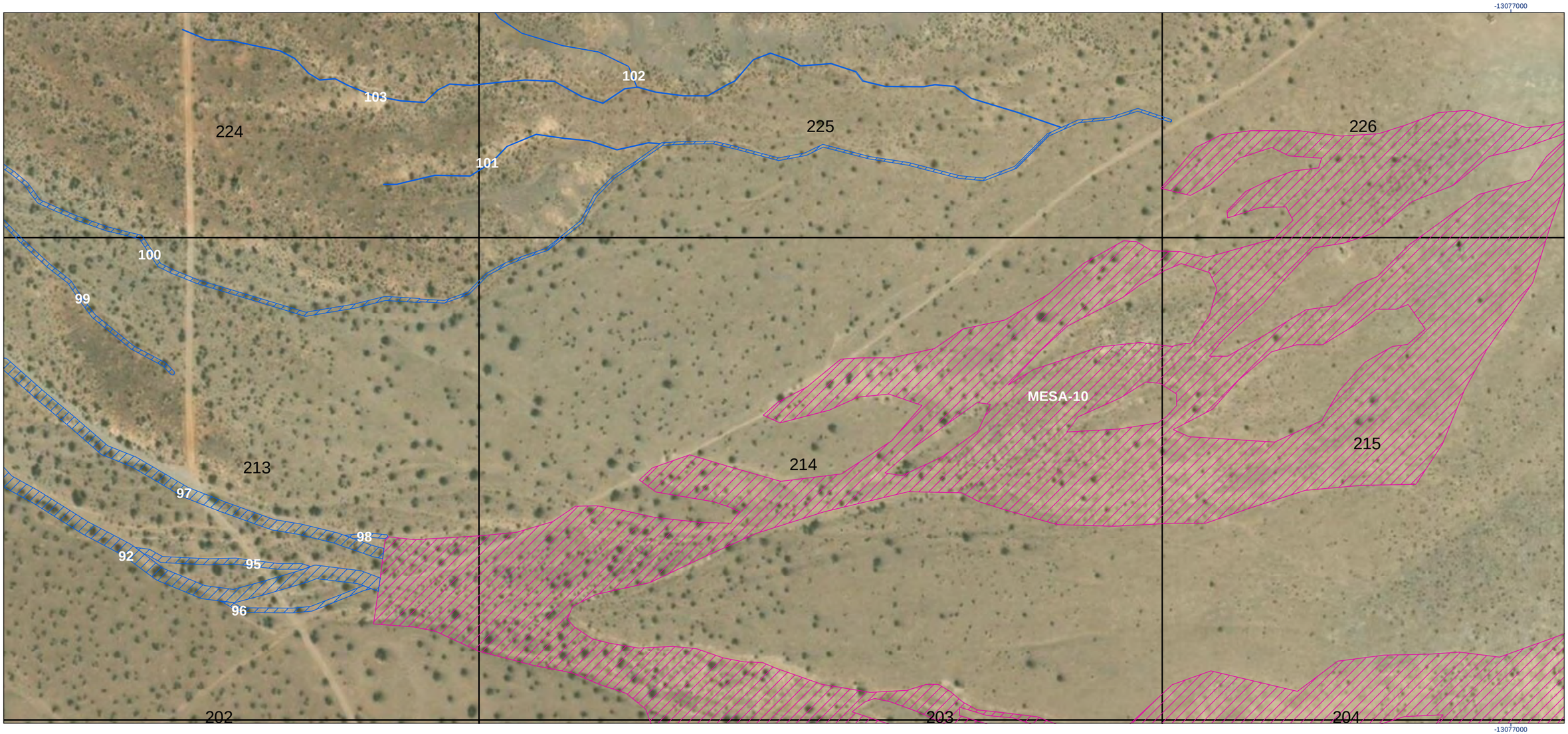
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-191

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-192

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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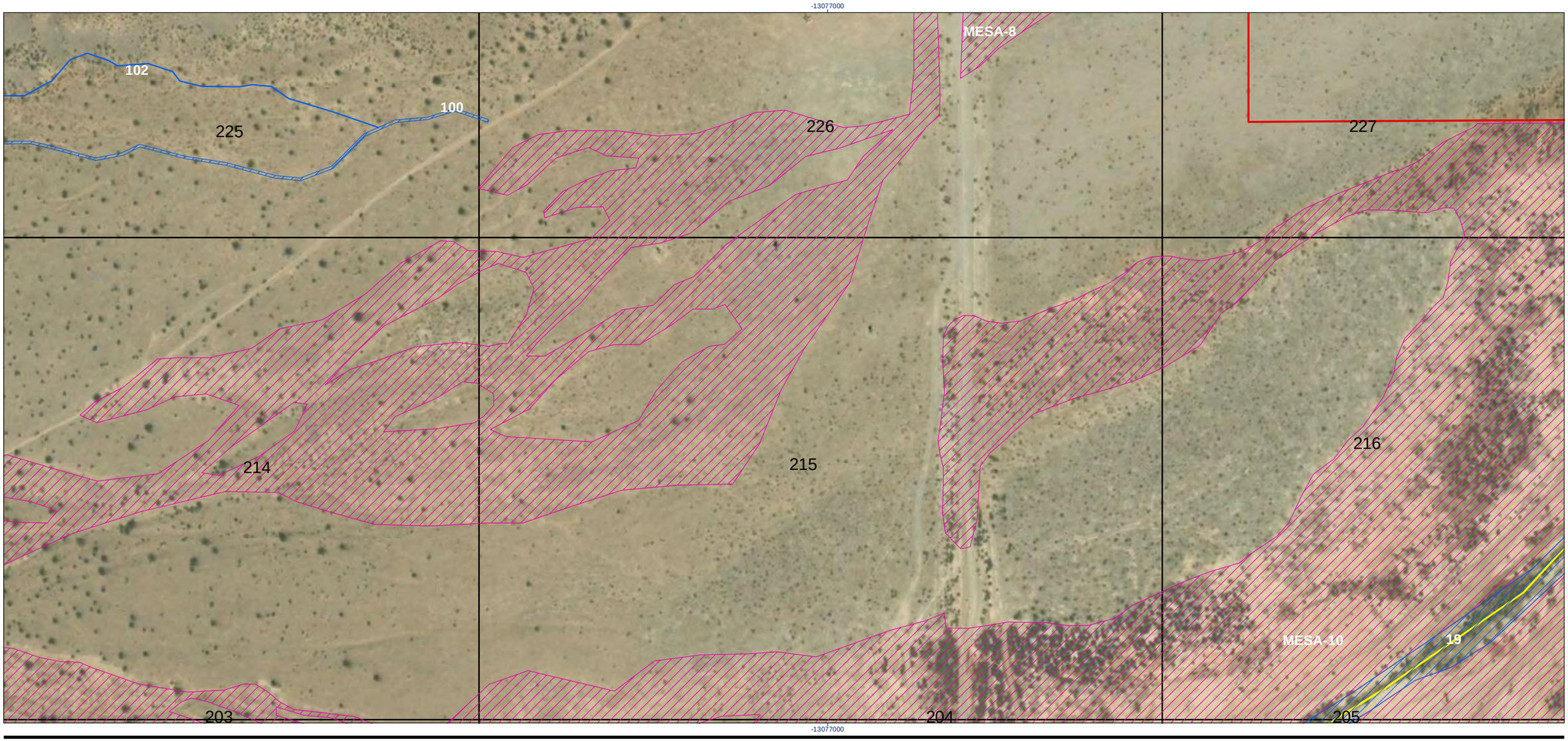

- Map Grid
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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-193

Title
Jurisdicitonal Features

Notes
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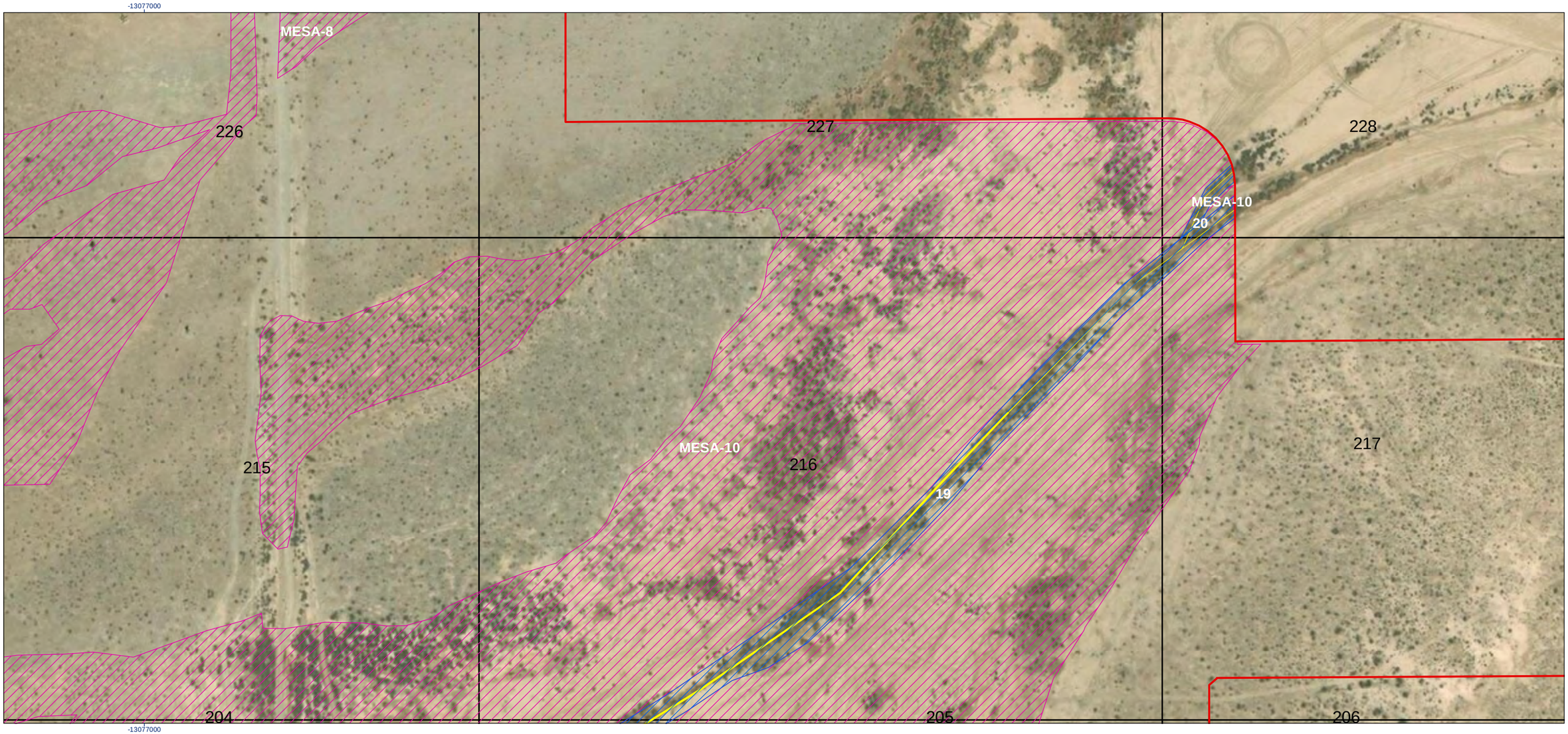

- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
Adelanto, CA

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-194

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
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1:2,210

N

Stantec

Project Location
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IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-195

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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- Map Grid
- Survey Area - Gen-Tie Options
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Stantec

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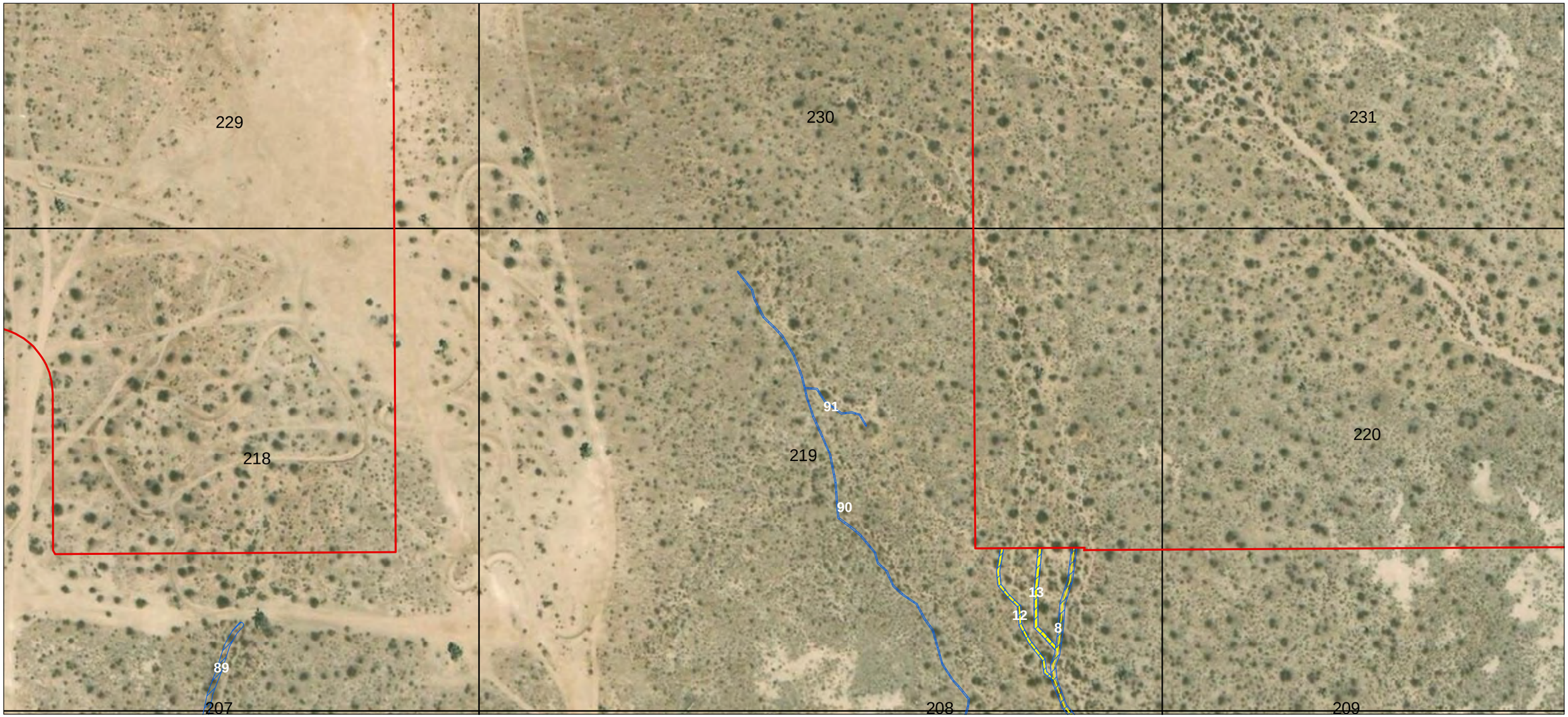
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-196

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Stantec

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-197

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
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Stantec

Project Location
Adelanto, CA

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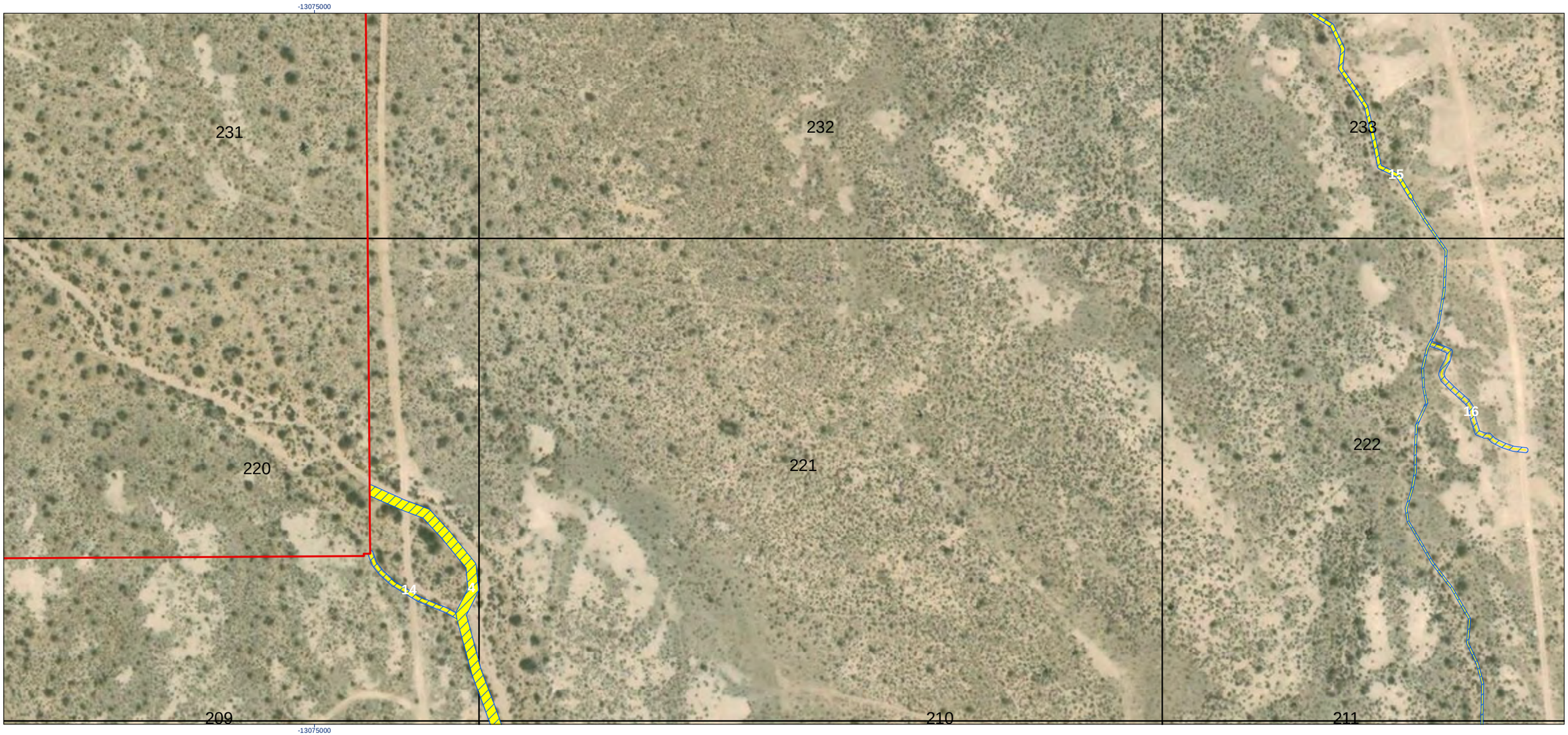
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-198

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

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Stantec

Project Location	Prepared by JV on 2020-04-05 TR by PM on 2020-04-07 IR Review by MW on 2020-04-07
Adelanto, CA	
Client/Project	185804030

sPower - Baldy Mesa Solar Project

Figure No.

4-199

Title

Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Stantec

Project Location
Adelanto, CA

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TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-200

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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N

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-201

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
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-13074000



-13074000

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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-202

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-203

Title
Jurisdicitonal Features

Notes
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- Map Grid
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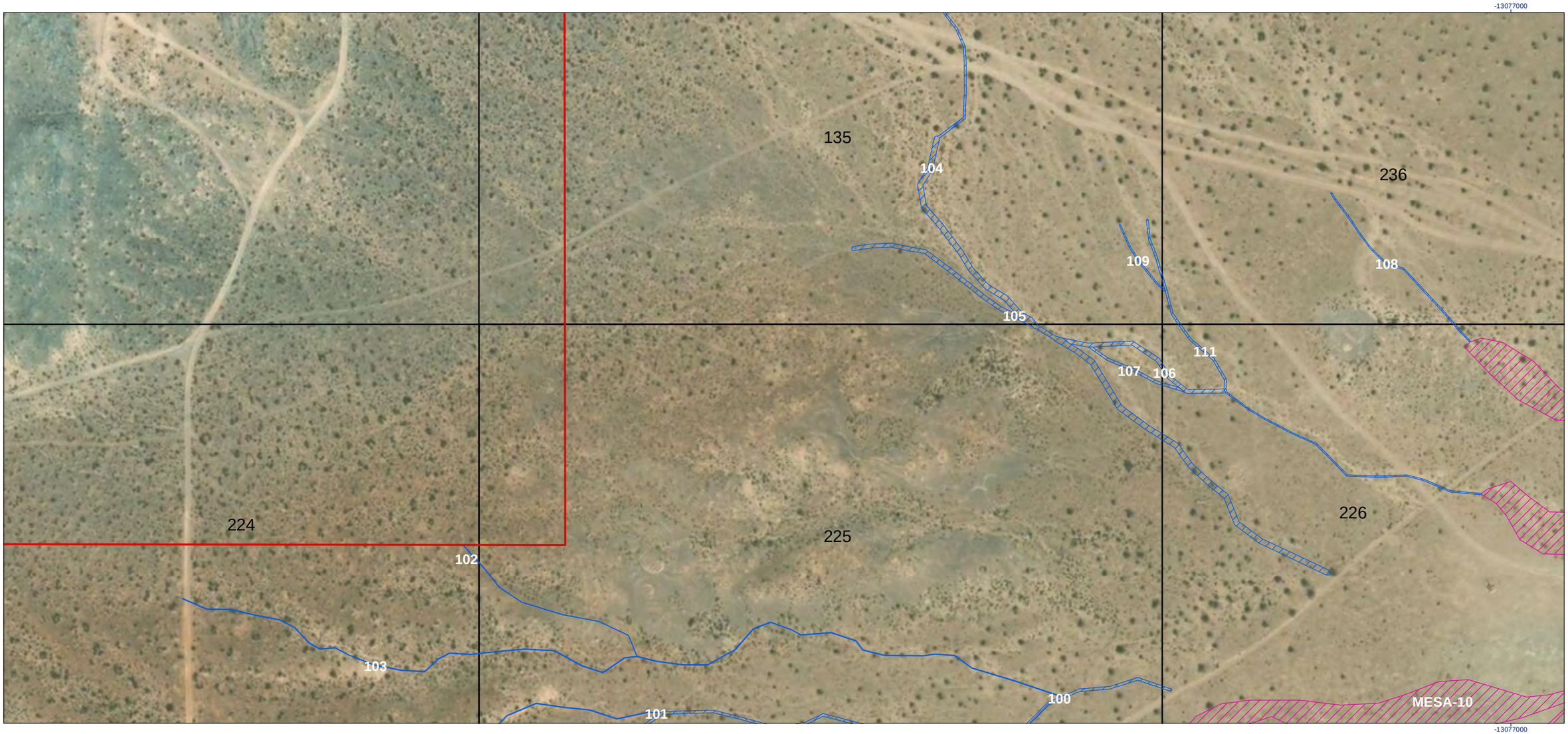
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-204

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

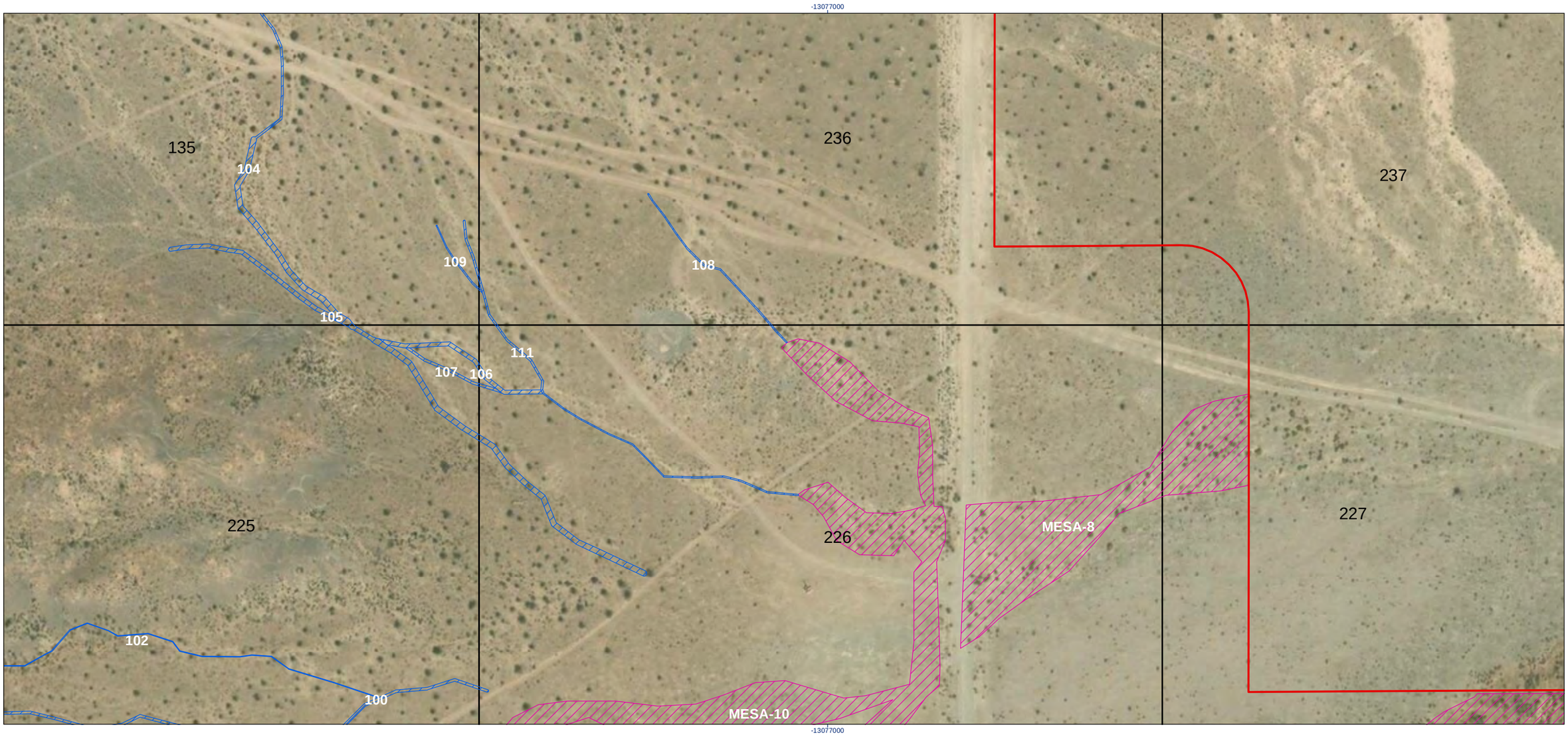
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-205

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-206

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-207

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13076000

238

239

228

229

230

MESA-9

17

18

-13076000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

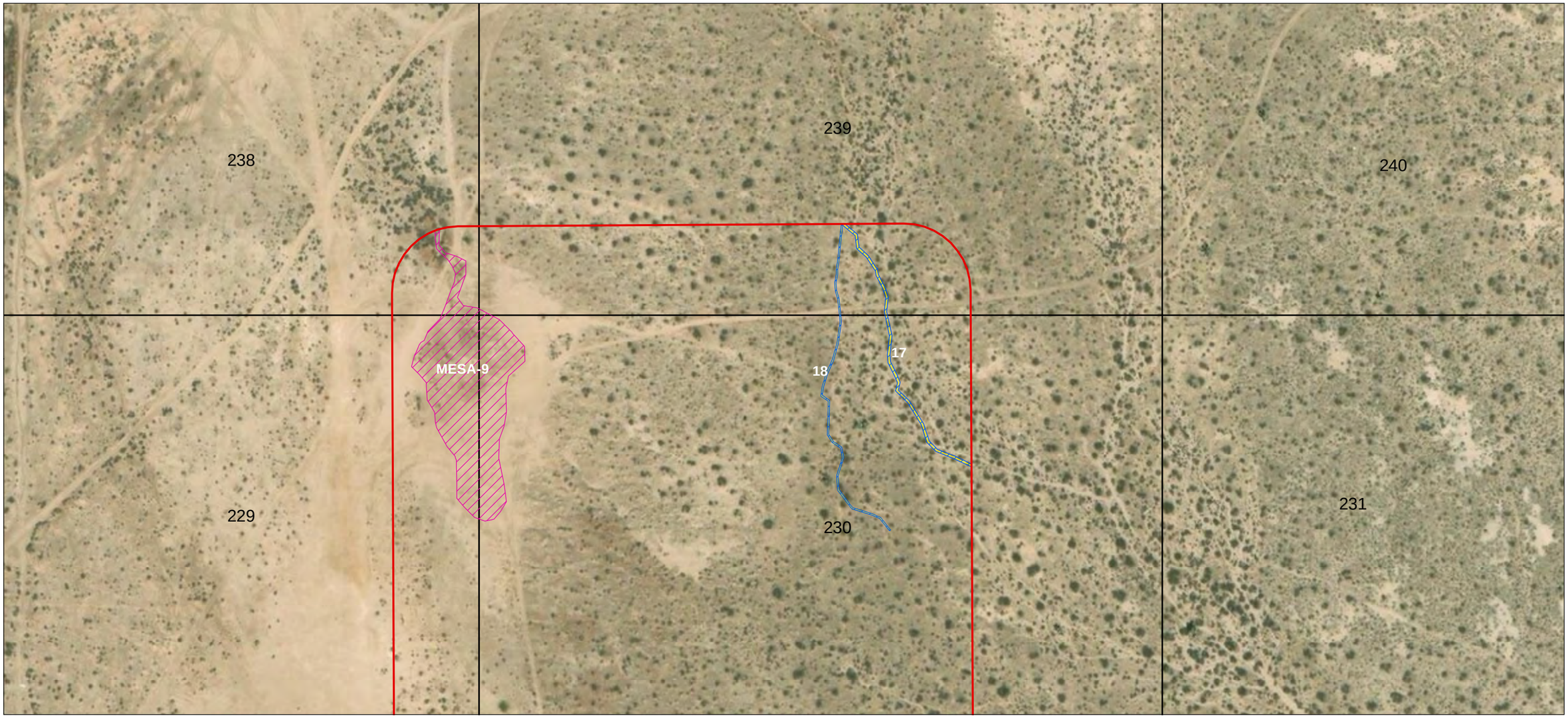
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-208

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
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0 40 80 metres
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-209

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
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N

Stantec

Project Location
Adelanto, CA

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IR Review by MW on 2020-04-07

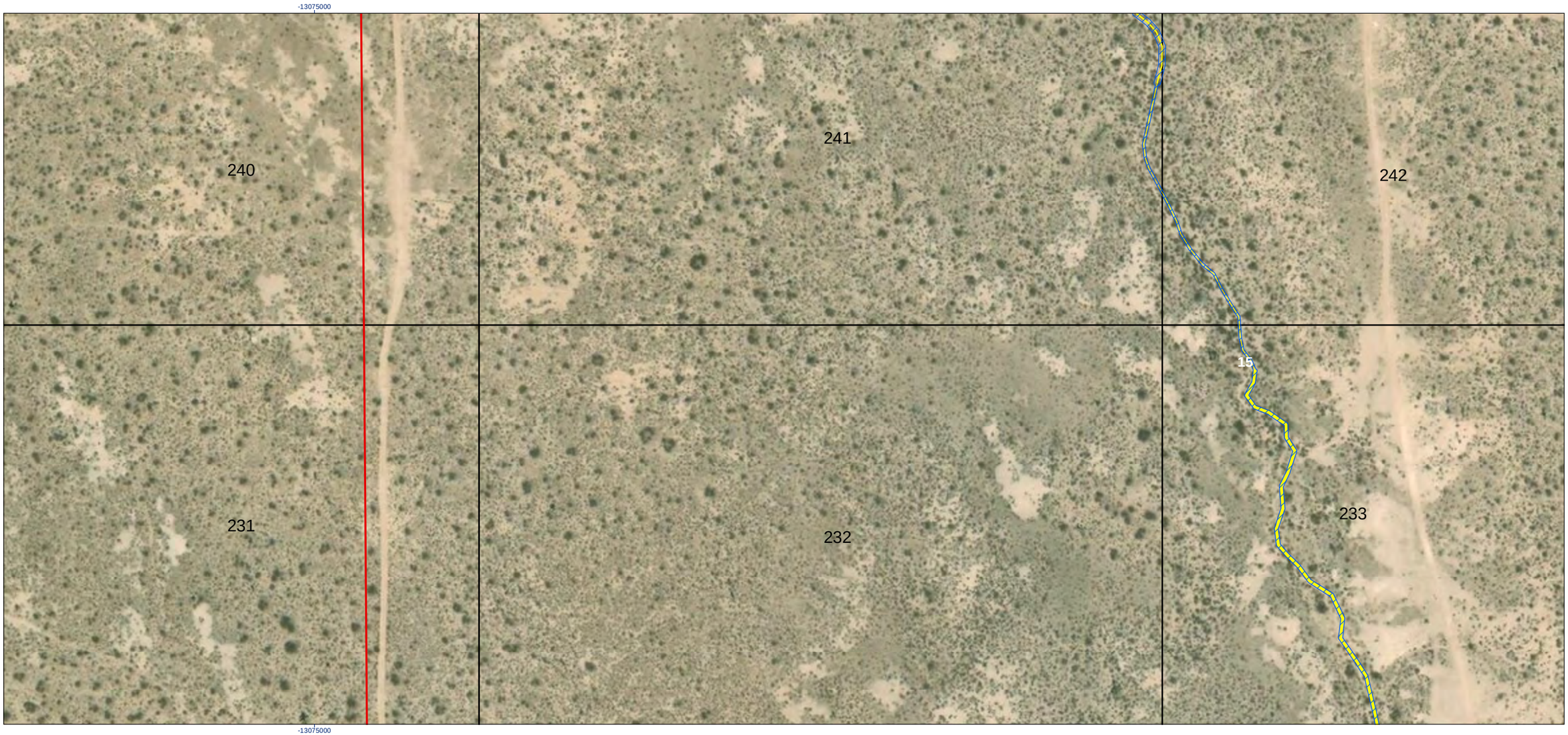
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-210

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres

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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

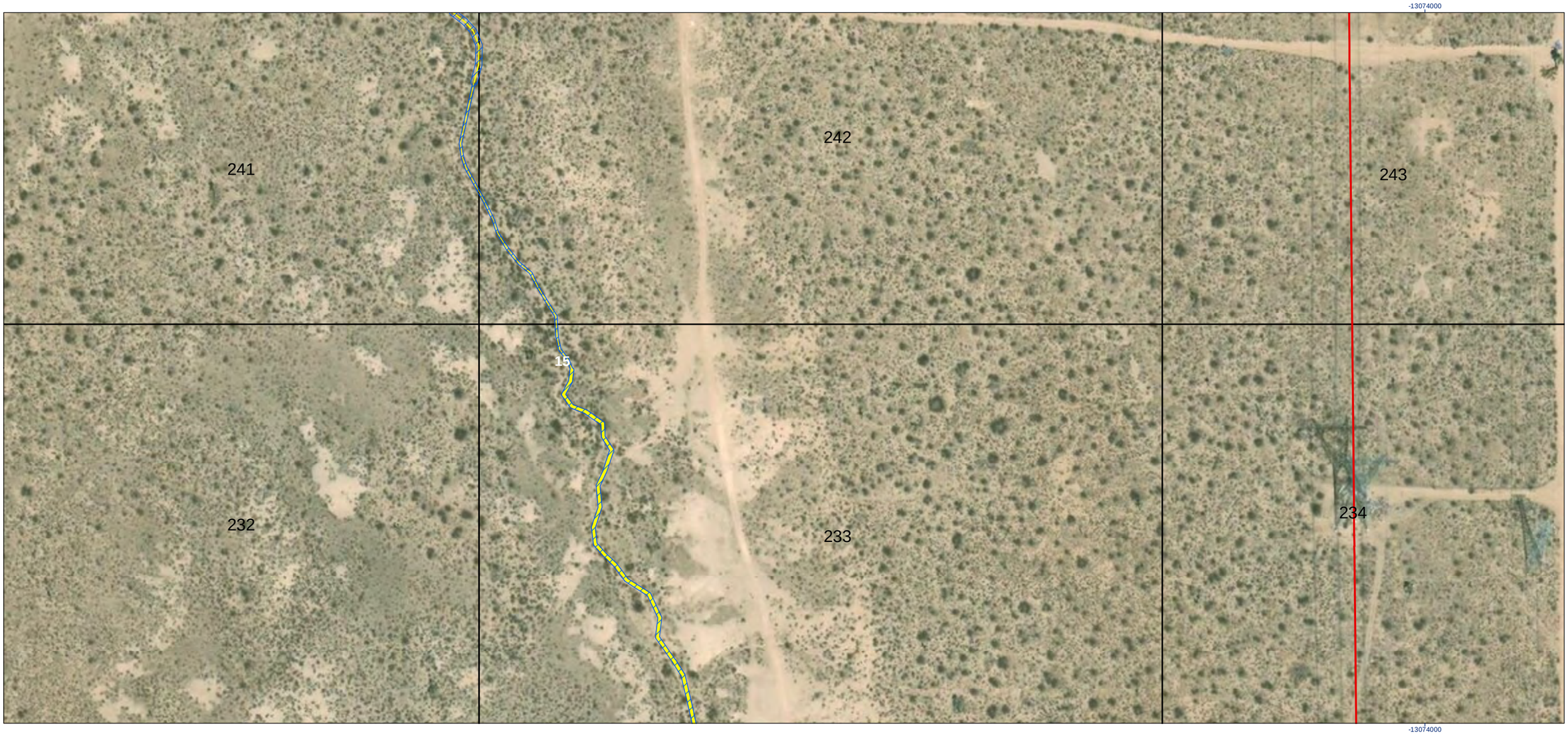
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-211

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

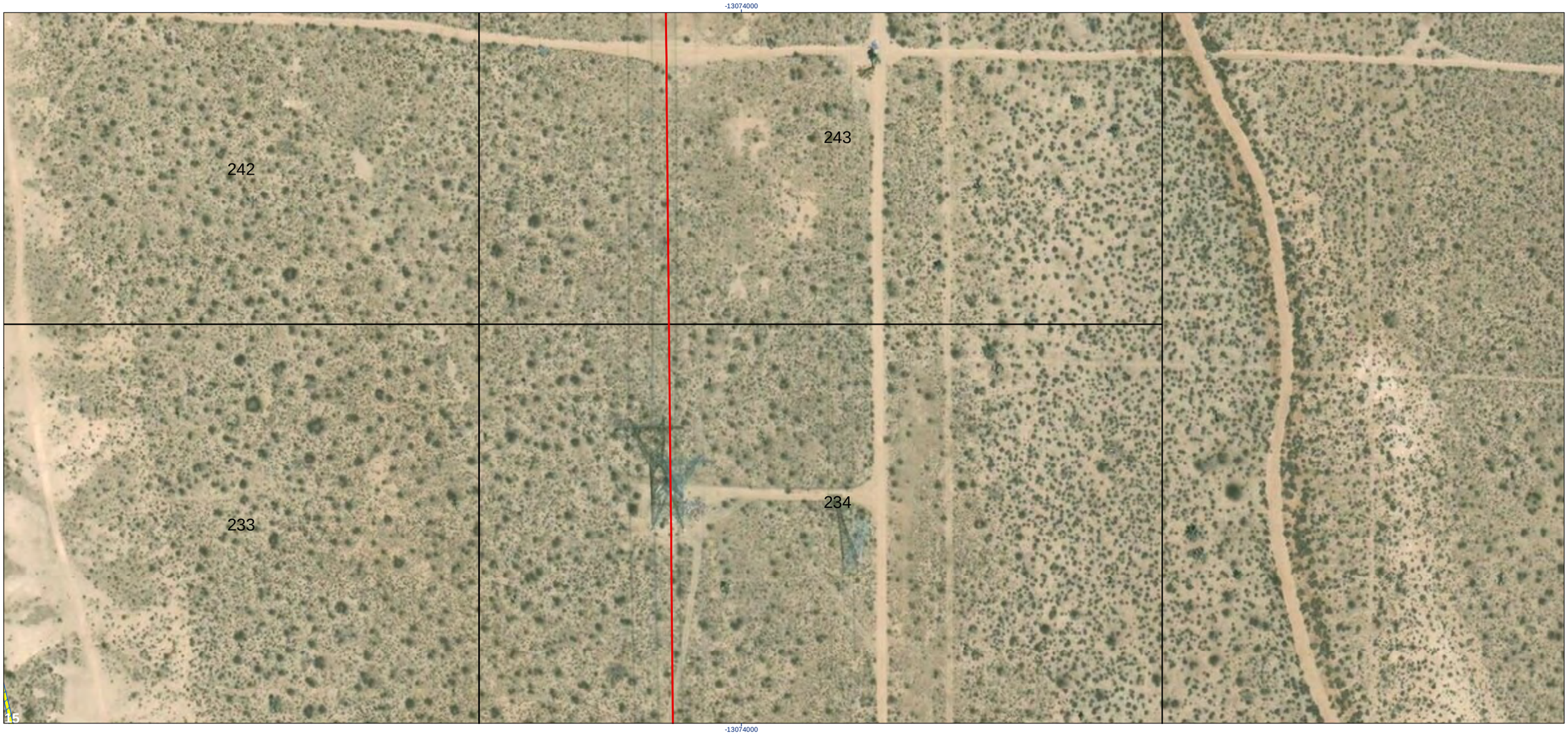
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-212

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-213

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-214

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

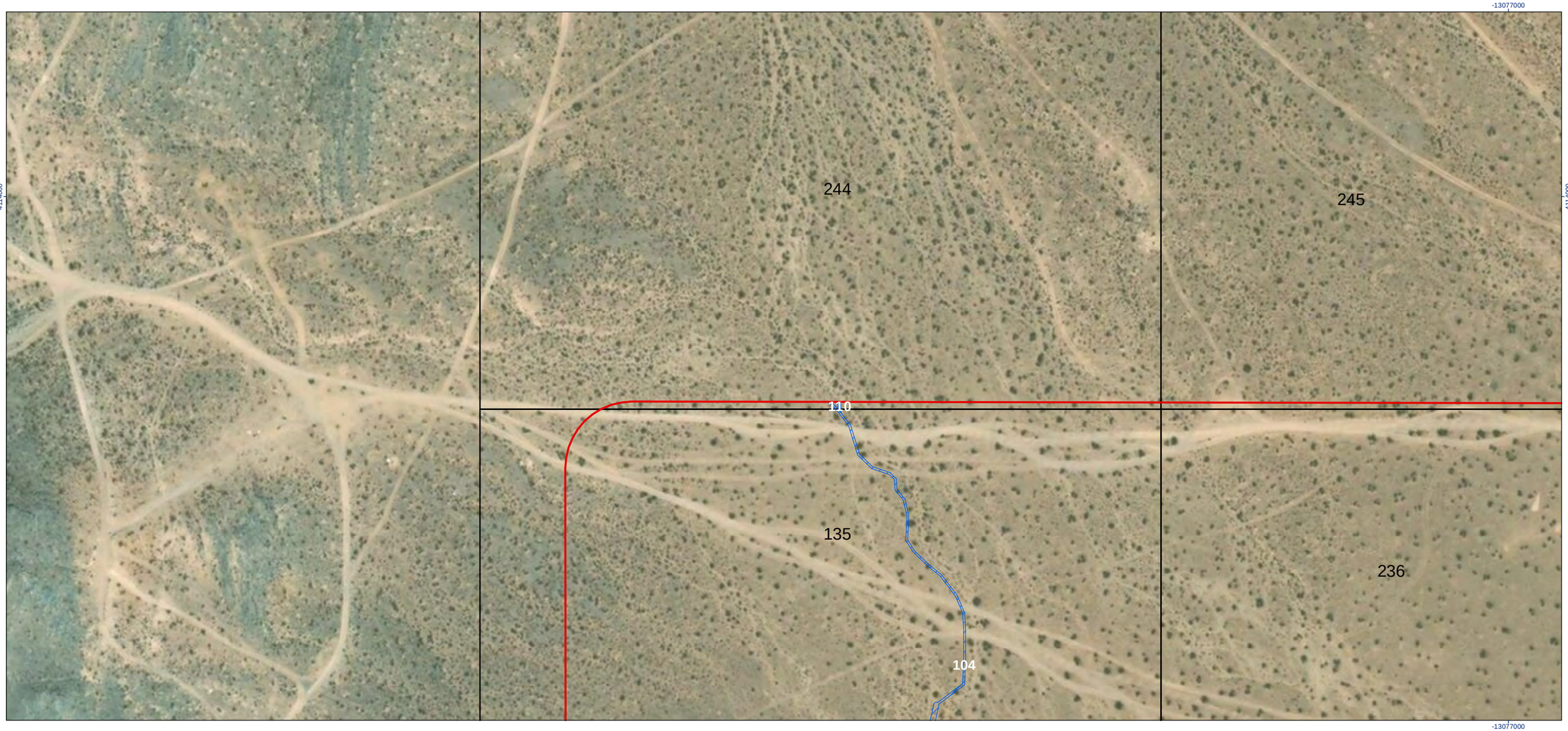
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-215

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-216

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-217

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project 185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-218

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-219

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-220

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project 185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-221

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-222

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-223

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
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- CDFW MESA Waters

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0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-224

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

-13074000



-13074000

Map Grid
Survey Area - Gen-Tie Options
Survey Area - Solar Project Site
USACE Non-Wetland Waters of the U.S.
CDFW Jurisdictional Waters
CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres
(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-225

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

White labels/numbers represent jurisdictional features.
Black numbers represent grid cell numbers.

0 40 80 metres

(At original document size of 11x17)
1:2,210

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

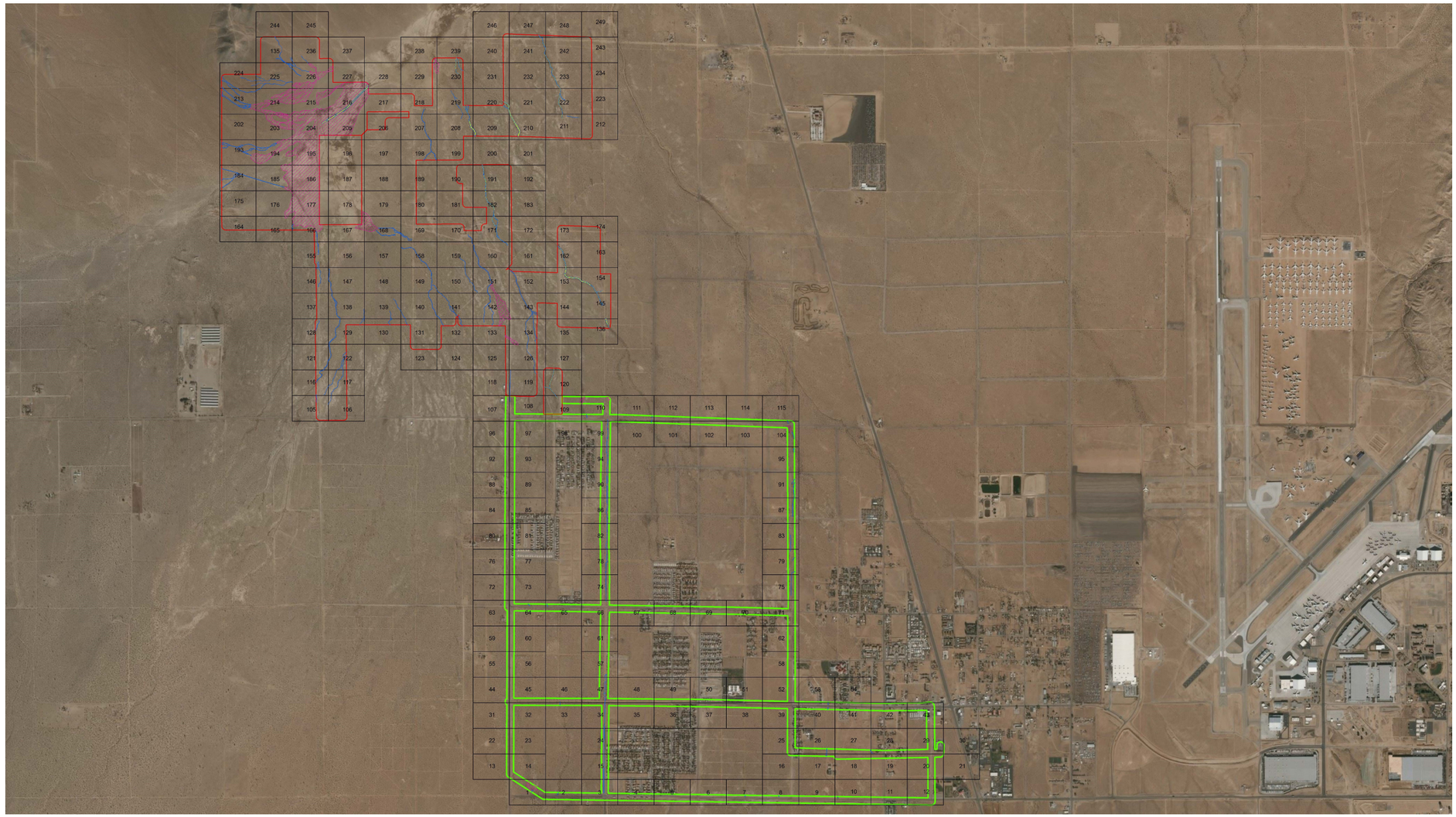
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-226

Title
Jurisdicitonal Features

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- Map Grid
- Survey Area - Gen-Tie Options
- Survey Area - Solar Project Site
- USACE Non-Wetland Waters of the U.S.
- CDFW Jurisdictional Waters
- CDFW MESA Waters

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-04-05
TR by PM on 2020-04-07
IR Review by MW on 2020-04-07

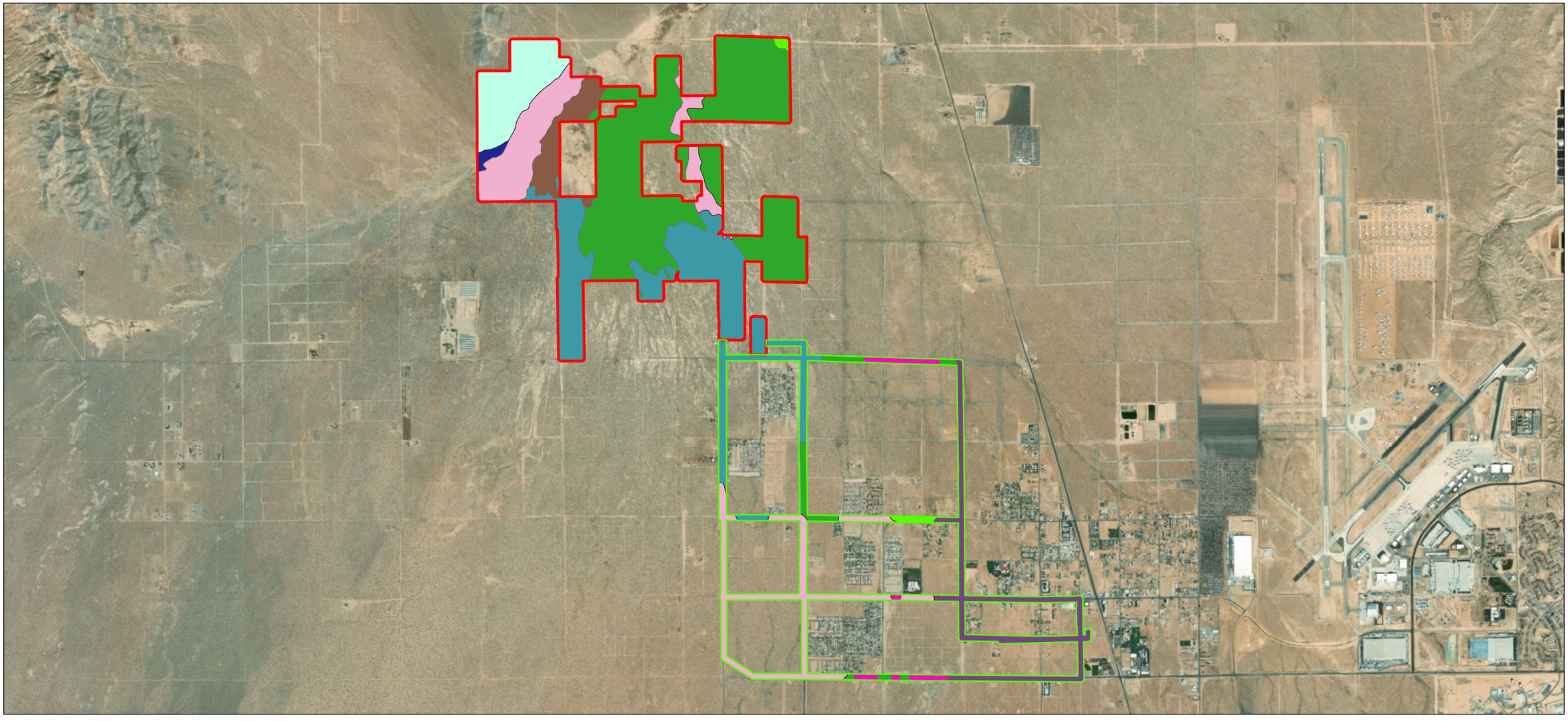
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
4-227

Title
Jurisdicitonal Features - Grid Map Overview

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Survey Area - Gen-Tie Options

Survey Area - Solar Project Site

Map Unit Symbol	
105	
106	
112	
113	
133	
139	
140	
144	
159	
166	

0 780 1,560 metres

(At original document size of 11x17)
1:40,653

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2019-08-13
TR by RB on 2019-08-13
IR Review by MW on 2019-08-13

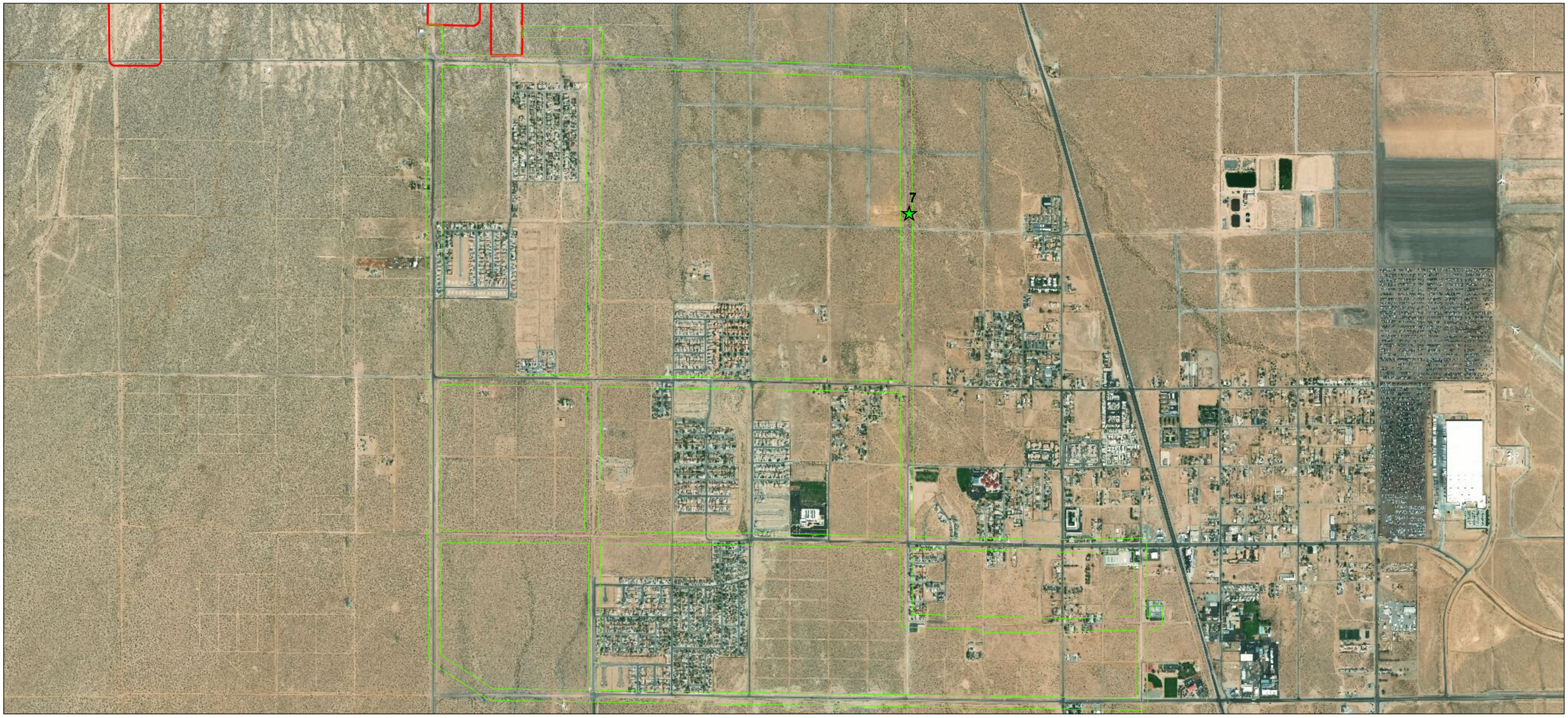
Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
3

Title
Historic Soils

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
3. Detailed soil descriptions are available in Section 2.6 of the report.



Survey Area - Solar Project Site

Survey Area - Gen-Tie Options

JD Report Photo Locations

0 475 950 metres

(At original document size of 11x17)
1:24,865

N

Stantec

Project Location
Adelanto, CA

Prepared by JV on 2020-01-08
TR by RB on 2020-01-09
IR Review by MW on 2020--0109

Client/Project
185804030

sPower - Baldy Mesa Solar Project

Figure No.
5B

Title
Photo Point Map

Notes
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix B SITE PHOTOGRAPHS

STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD

Client: sPower	**Job Number:** 185804340
Site Name: Baldy Mesa	**Photographers:** E. Waardenburg, L. Butler, M. Martinez

Photo 1



Shallowly-incised drainage feature typical of many throughout low-gradient areas of the Survey Area – photo taken in the southern central portion of the Survey Area, looking upstream (south).

Photo 2



Photo depicts a typical area within the Survey Area where aerial photography indicates fluvial activity, though no drainage feature or indicators of surface flow were apparent in the field. Photo taken in the northwestern portion of the site looking down-gradient (southeast).

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: sPower	**Job Number:** 185804340
Site Name: Baldy Mesa	**Photographers:** E. Waardenburg, L. Butler, M. Martinez

Photo 3



Moderately incised drainage feature in the southeastern portion of the Survey Area, looking downstream (north) – unpaved road crossing in the middle ground of the photo.

Photo 4



Photo depicts transition of swale-type drainage feature to sheet flow lacking confining banks – photo taken in northwest portion of the Survey Area, looking downstream (southeast).

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: sPower	**Job Number:** 185804340
Site Name: Baldy Mesa	**Photographers:** E. Waardenburg, L. Butler, M. Martinez

Photo 5



Swale-type drainage feature in the northern portion of the Survey Area, looking upstream (north).

Photo 6



Swale-type drainage feature in the northwestern portion of the Survey Area, looking downstream (southeast).

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: sPower	**Job Number:** 185804340
Site Name: Baldy Mesa	**Photographers:** E. Waardenburg, L. Butler, M. Martinez

Photo 7



Incised drainage feature along one gen-tie alternative route, looking downstream (north).

Photo 8



Section of Fremont Wash in the low-gradient northern portion of the Survey Area, looking upstream (southwest) – demonstrating localized vegetation growth resulting from increased availability of subsurface moisture.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: sPower	**Job Number:** 185804340
Site Name: Baldy Mesa	**Photographers:** E. Waardenburg, L. Butler, M. Martinez

Photo 9



Drainage feature traversing playa-type low-gradient area in northwest portion of the Survey Area with unpaved trail crossing in the middle ground of the photo, looking upstream (northwest).
Note: sparse vegetation growth away from drain.

Photo 10



Drainage feature in the southeast portion of the Survey Area, looking upstream (south). Photo demonstrates the transitory nature of low-order intermittent streams characteristic of southern California desert habitats.

Appendix C HISTORIC SOILS INFORMATION

San Bernardino County, California, Mojave River Area

105—BRYMAN LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hkr9
Elevation: 2,800 to 3,200 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Bryman and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bryman

Setting

Landform: Fan remnants
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 12 inches: sandy loam
H3 - 12 to 32 inches: sandy clay loam
H4 - 32 to 46 inches: sandy loam
H5 - 46 to 99 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Cajon
Percent of map unit: 5 percent
Hydric soil rating: No

Helendale
Percent of map unit: 5 percent
Hydric soil rating: No

Mohave variant
Percent of map unit: 5 percent
Hydric soil rating: No

Bryman, gravelly surface
Percent of map unit: 5 percent
Hydric soil rating: No

106—BRYMAN LOAMY FINE SAND, 2 TO 5 PERCENT SLOPES

Map Unit Setting
National map unit symbol: hkrb
Elevation: 3,000 to 3,400 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Bryman and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bryman

Setting
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile
H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 43 inches: sandy clay loam
H3 - 43 to 60 inches: sandy loam

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Cajon, loamy surface
Percent of map unit: 5 percent
Hydric soil rating: No

Helendale
Percent of map unit: 5 percent
Hydric soil rating: No

Mohave variant
Percent of map unit: 5 percent
Hydric soil rating: No

Bryman, gravelly surface
Percent of map unit: 5 percent

112—CAJON SAND, 0 TO 2 PERCENT SLOPES

Map Unit Setting
National map unit symbol: hkrj
Elevation: 1,800 to 3,200 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 7 inches: sand
H2 - 7 to 25 inches: sand
H3 - 25 to 45 inches: gravelly sand
H4 - 45 to 60 inches: stratified sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Manet

Percent of map unit: 5 percent
Landform: Playas
Hydric soil rating: Yes

Kimberlina

Percent of map unit: 5 percent

Helendale

Percent of map unit: 5 percent

113—CAJON SAND, 2 TO 9 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hkrk
Elevation: 1,800 to 3,500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 68 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

A - 0 to 6 inches: sand
C1 - 6 to 25 inches: sand
C2 - 25 to 60 inches: gravelly sand, stratified gravelly sand to sand
C2 - 25 to 60 inches:

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Helendale
Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Kimberlina
Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Cajon, gravelly surface
Percent of map unit: 5 percent
Landform: Alluvial fans

133—HELENDALE-BRYMAN LOAMY SANDS, 2 TO 5 PERCENT SLOPES*

Map Unit Setting
National map unit symbol: hks6
Elevation: 2,500 to 4,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Helendale and similar soils: 50 percent
Bryman and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Helendale

Setting
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile
H1 - 0 to 6 inches: loamy sand
H2 - 6 to 30 inches: sandy loam
H3 - 30 to 66 inches: sandy loam
H4 - 66 to 99 inches: loamy sand, sandy loam
H4 - 66 to 99 inches:

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Description of Bryman

Setting

Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 8 inches: loamy sand
H2 - 8 to 12 inches: sandy loam
H3 - 12 to 44 inches: sandy clay loam
H4 - 44 to 60 inches: loamy sand, coarse sandy loam
H4 - 44 to 60 inches:

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C

Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Cajon
Percent of map unit: 5 percent
Hydric soil rating: No

Mohave variant
Percent of map unit: 5 percent
Hydric soil rating: No

139—KIMBERLINA GRAVELLY SANDY LOAM, COOL, 2 TO 5 PERCENT SLOPES

Map Unit Setting
National map unit symbol: hksd
Elevation: 250 to 3,500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Kimberlina and similar soils: 85 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimberlina

Setting
Landform: Fan aprons
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile
H1 - 0 to 7 inches: gravelly sandy loam
H2 - 7 to 60 inches: gravelly sandy loam, gravelly fine sandy loam
H2 - 7 to 60 inches:

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: COARSE LOAMY (R030XF003CA)
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 5 percent
Hydric soil rating: No

Manet

Percent of map unit: 5 percent
Hydric soil rating: No

140—LAVIC LOAMY FINE SAND

Map Unit Setting

National map unit symbol: hksf
Elevation: 2,800 to 3,100 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lavic and similar soils: 85 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lavic

Setting

Landform: Fan aprons, fan skirts
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 10 inches: loamy fine sand
H2 - 10 to 20 inches: loamy sand, loamy fine sand
H2 - 10 to 20 inches: loam, sandy loam
H3 - 20 to 49 inches: stratified sand to loamy sand
H3 - 20 to 49 inches:
H4 - 49 to 60 inches:

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 26 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

144—MANET COARSE SAND, 2 TO 5 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hksk
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Manet and similar soils: 85 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manet

Setting

Landform: Fan aprons
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

H1 - 0 to 3 inches: coarse sand
H2 - 3 to 42 inches: stratified sand to loamy sand
H3 - 42 to 60 inches: fine sandy loam, loamy fine sand
H3 - 42 to 60 inches:

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandy (R030XF012CA)
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 5 percent
Hydric soil rating: No

Manet

Percent of map unit: 5 percent
Hydric soil rating: No

159—ROSAMOND LOAM, SALINE-ALKALI

Map Unit Setting

National map unit symbol: hkt1

Elevation: 1,700 to 2,900 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Rosamond and similar soils: 85 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rosamond

Setting

Landform: Fan skirts
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 5 inches: loam
H2 - 5 to 44 inches: stratified loam to silty clay loam
H3 - 44 to 60 inches: stratified loamy coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: SALINE ALKALI FLATS (R030XF032CA)
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

166—TRIGGER-ROCK OUTCROP COMPLEX, 30 TO 50 PERCENT SLOPES*

Map Unit Setting

National map unit symbol: hkt8
Elevation: 650 to 4,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 180 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Trigger and similar soils: 60 percent
Rock outcrop: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Trigger

Setting

Landform: Mountains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Upper third of mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from calcareous conglomerate

Typical profile

H1 - 0 to 12 inches: gravelly sandy loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 10 to 18 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: GRAVELLY LOAM (R030XF033CA)
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Appendix D ARID WEST INDICATOR TABLES

Table 1. Potential Geomorphic Indicators of Ordinary High Water Marks for the Arid West

(A) Below OHW	(B) At OHW	(C) Above OHW
1. In-stream dunes 2. Crested ripples 3. Flaser bedding 4. Harrow marks 5. Gravel sheets to rippled sands 6. Meander bars 7. Sand tongues 8. Muddy point bars 9. Long gravel bars 10. Cobble bars behind obstructions 11. Scour holes downstream of obstructions 12. Obstacle marks 13. Stepped-bed morphology in gravel 14. Narrow berms and levees 15. Streaming lineations 16. Desiccation/mud cracks 17. Armored mud balls 18. Knick Points	1. Valley flat 2. Active floodplain 3. Benches: low, mid, most prominent 4. Highest surface of channel bars 5. Top of point bars 6. Break in bank slope 7. Upper limit of sand-sized particles 8. Change in particle size distribution 9. Staining of rocks 10. Exposed root hairs below intact soil layer 11. Silt deposits 12. Litter (organic debris, small twigs and leaves) 13. Drift (organic debris, larger than twigs)	1. Desert pavement 2. Rock varnish 3. Clast weathering 4. Salt splitting 5. Carbonate etching 6. Depositional topography 7. Caliche rubble 8. Soil development 9. Surface color/tone 10. Drainage development 11. Surface relief 12. Surface rounding

Table 2. Potential Vegetation Indicators of Ordinary High Water Marks for the Arid West

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian Indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation annual herbs, hydromesic 6. ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominent 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

Table 3. Summary of Wetland Indicator Status

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability of 67–99%)
Facultative	FAC	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34–66%)
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability >99%)
Non-Indicator	NI	No indicator status has been assigned

Source: Reed, 1988; USFWS, 1997; USACE, 2012.

Table 4. Wetland Hydrology Indicators*

Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	Local Soil Survey Data

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
Group A – Observation of Surface Water or Saturated Soils		
A1 – Surface Water	X	
A2 – High Water Table	X	
A3 – Saturation	X	
Group B – Evidence of Recent Inundation		
B1 – Water Marks	**X** (Non-riverine)	**X** (Riverine)
B2 – Sediment Deposits	**X** (Non-riverine)	**X** (Riverine)
B3 – Drift Deposits	**X** (Non-riverine)	**X** (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 –Water-Stained Leaves	X	
B10 – Drainage	X	X
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	

Table 5. Wetland Hydrology Indicators for the Arid West*		
	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	**Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)**
Group C – Evidence of Current or Recent Soil Saturation		
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	

*Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

Table 6. Field Indicators of Hydric Soil Conditions*	
1. Indicators of Historical Hydric Soil Conditions	**2. Indicators of Current Hydric Soil Conditions**
a. Histosols b. Histic epipedons; c. Soil colors (e.g., gleyed or low-chroma colors, soils with bright mottles (Redoximorphic features) and/or depleted soil matrix d. High organic content in surface of sandy soils e. Organic streaking in sandy soils f. Iron and manganese concretions g. Soil listed on county hydric soils list	a. Aquic or peraquic moisture regime (inundation and/or soil saturation for *7 continuous days) b. Reducing soil conditions (inundation and/or soil saturation for *7 continuous days) c. Sulfidic material (rotten egg smell)

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 7. Hydric Soil Indicators for the Arid West*			
Hydric Soil Indicators	**Hydric Soil Indicators**	**Hydric Soil Indicators**	**Hydric Soil Indicators**
A1 – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Verti
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material
A5 – Stratified Layers	—	F7 – Depleted Dark Surface	Other (See Section 5 of Regional Supplement, Version 2.0)
A9 – 1 cm Muck	—	F8 – Redox Depressions	—
A11 – Depleted Below Dark Surface	—	F9 – Vernal Pools	—
A12 – Thick Dark Surface	—	—	—

* Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0. ** Indicators of hydrophytic vegetation and wetland hydrology must be present

Appendix E REGULATORY BACKGROUND

Regulatory Background Information

Section 404 of the Clean Water Act (CWA)

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within "waters of the U.S." (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The USACE has adopted several revisions to their regulations in order to more clearly define "waters of the U.S." Until the beginning of 2001, "waters of the U.S." included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable "waters of the U.S."

The jurisdictional extent of USACE regulation changed with the 2001 SWANCC (Solid Waste Agency of Northern Cook County) ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

Section 401 of the CWA

Section 401 of the CWA requires that any applicant for a Federal permit for activities that involve a discharge to 'waters of the State,' shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete CEQA document (e.g., Initial Study/Mitigated Negative Declaration).

Section 1602 of the California Fish and Game Code

Section 1602 of the California Fish and Game Code requires any person, State or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials

submitted, the CDFW will determine if the proposed project may impact fish or wildlife resources. If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. A completed CEQA document must be submitted to CDFW before a SAA will be issued.

Appendix F FIELD DATA SHEETS

Project:
Project Number:
Stream: HH-1 (Team 3)
Investigator(s): Mayra & Meg

Date: 1/15/19 **Time:** 11:50
Town: Adelanto **State:** CA
Photo begin file# **Photo end file#**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details:

Projection: **Datum:**
Coordinates:

Notes:

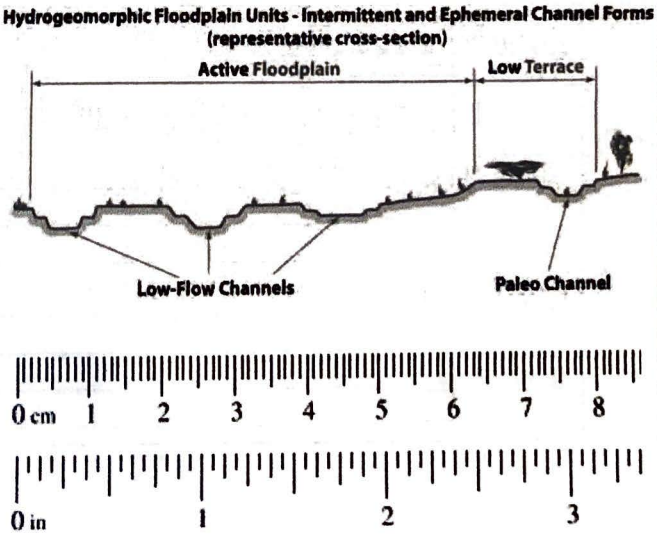
Brief site description: Braided channel

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
  Scale:
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ Clinometer / level
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

Millimeters (mm)	Inches (in)	Wentworth size class	
10.08	256	Boulder	
		Cobble	Gravel
2.56	64	Pebble	
0.157	4	Granule	
0.079	2.00	Very coarse sand	
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	Sand
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625	Coarse silt	
1/16 0.0012	0.031	Medium silt	
1/32 0.00061	0.0156	Fine silt	Silt
1/64 0.00031	0.0078	Very fine silt	
1/128 0.00015	0.0039	Clay	Mud



☐ **Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**

☐ **Locate the low-flow channel (lowest part of the channel). Record observations.**

Characteristics of the low-flow channel:

Average sediment texture: med sand

Total veg cover: 60 % Tree: ____% Shrub: 100 % Herb: ____%

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: All scale, desert senna, four-wing saltbush, cheesebush

Other: ☐ ☐ ☐ ☐

☐ **Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.**

Characteristics used to delineate the low-flow/active floodplain boundary:

☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb

☐ Change in overall vegetation maturity

☒ Change in dominant species present

☒ Other ☒ Presence of bed and bank

☐ Drift and/or debris

☐ Other: _____

☐ Other: _____

☐ **Continue walking the channel cross-section. Record observations below.**

Characteristics of the low-flow channel:

Average sediment texture: med sand

Total veg cover: 50 % Tree: ____% Shrub: 100 % Herb: ____%

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: same as above

Other: ☐ ☐ ☐ ☐

☐ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

Characteristics used to delineate the active floodplain/ low terrace boundary:

☐ Change in average sediment texture
☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
☐ Change in overall vegetation maturity
☑ Change in dominant species present
☐ Other ☑ Presence of bed and bank
☐ Drift and/or debris
☐ Other: _____
☐ Other: _____

☐ **Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

Y ☐ N ☐ Change in average sediment texture
Y ☐ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
Y ☐ N ☐ Change in overall vegetation maturity
Y ☐ N ☐ Change in dominant species present
Y ☐ N ☐ Other: Y ☐ N ☐ Presence of bed and bank
Y ☐ N ☐ Drift and/or debris
Y ☐ N ☐ Other: _____
Y ☐ N ☐ Other: _____

☐ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☐ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: coarse sand

Total veg cover: 50 % Tree: ____ % Shrub: 98 % Herb: 2 %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)
☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: chaosebush, desert senna, fourwing saltbush, all scale

Other: ☐ schismus
☐ _____
☐ _____
☐ _____

☐ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

☐ Mapping on aerial photograph ☐ GPS
☐ Digitized on computer ☐ Other: _____

Project: Baldy Mesa Solar Project
Project Number:
Stream:
Investigator(s): R. Brown / E. Waardenburg

Date: 1/15/19 **Time:** 9:08
Town: **State:** CA
Photo begin file# **Photo end file#**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
See GIS DATA - HH 4
Projection: **Datum:**
Coordinates:

Notes:

creosote bush scrub

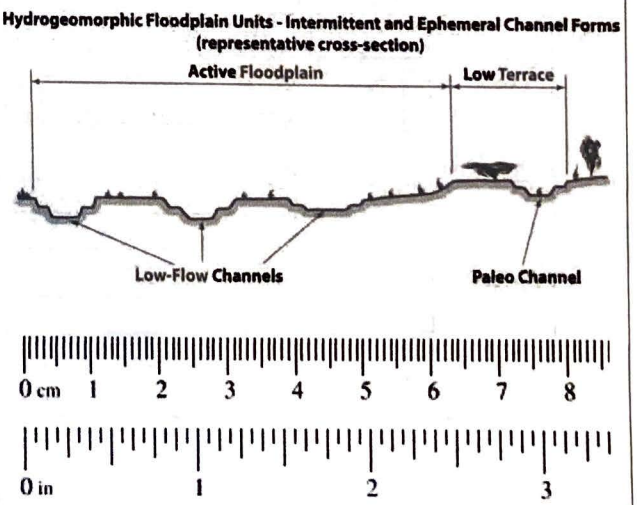
Brief site description:
braided side channel of HH-5

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☐ Topographic maps
  Scale:
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ Clinometer / level
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

Millimeters (mm)	Inches (in)	Wentworth size class	
10.08	256	Boulder	
2.56	64	Cobble	Gravel
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



☒ **Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**

☐ **Locate the low-flow channel (lowest part of the channel). Record observations.**

Characteristics of the low-flow channel:

Average sediment texture: silty sand

Total veg cover: 12 % Tree: 1 % Shrub: 10 % Herb: 1 %

Community successional stage:

☐ NA
☐ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☒ Late (herbaceous, shrubs, mature trees)

Dominant species present: creosote bush, white bursage

Other: ☐ ☐ ☐ ☐

☐ **Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.**

Characteristics used to delineate the low-flow/active floodplain boundary:

☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
☐ Change in overall vegetation maturity
☐ Change in dominant species present
☒ Other
- ☒ Presence of bed and bank
- ☐ Drift and/or debris
- ☒ Other: sediment texture
- ☐ Other:

☐ N/A **Continue walking the channel cross-section. Record observations below.**

Characteristics of the low-flow channel: see above

Average sediment texture:

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

☐ NA
☐ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Dominant species present:

Other: ☐ ☐ ☐ ☐

☒ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

Characteristics used to delineate the active floodplain/ low terrace boundary:

- ☒ Change in average sediment texture
- ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- ☐ Change in overall vegetation maturity
- ☐ Change in dominant species present
- ☒ Other ☒ Presence of bed and bank
  - ☐ Drift and/or debris
  - ☐ Other: _____
  - ☐ Other: _____

☒ **Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

- Y ☒ N ☐ Change in average sediment texture
- Y ☐ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
- Y ☐ N ☐ Change in overall vegetation maturity
- Y ☐ N ☐ Change in dominant species present
- Y ☒ N ☐ Other: Y ☒ N ☐ Presence of bed and bank
  - Y ☐ N ☐ Drift and/or debris
  - Y ☐ N ☐ Other: _____
  - Y ☐ N ☐ Other: _____

☐ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☒ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: sand

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: same

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☐ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

- ☐ Mapping on aerial photograph
- ☐ Digitized on computer
- ☐ GPS
- ☐ Other: _____

Appendix G AQUATIC RESOURCE INVENTORY

Table G-1 Aquatic Resources Inventory

Drainage Number/ID	Drainage Type	CDFW Jurisdictional Waters/MESA Waters		USACE Non-Wetlands Waters of the United States		Drainage Name
		Average Width	Acres	Average Width	Acres	
1	Ephemeral	2	0.03			
2	Ephemeral	2	0.01			
3	Ephemeral	26.8	0.15	4	0.03	
4	Ephemeral	22.8	1.46	3.7	0.42	
5	Ephemeral	4	0.01	1.5	0.01	
6	Ephemeral	5	0.01	1	0.01	
7	Ephemeral	2	0.01	0.5	0.01	
8	Ephemeral	18.2	1.1	4.8	0.37	
9	Ephemeral	7	0.01	2	0.01	
10	Ephemeral	7	0.01	2	0.01	
11	Ephemeral	14	0.11	4	0.04	
12	Ephemeral	6	0.03	2	0.01	
13	Ephemeral	7	0.02	3	0.01	
14	Ephemeral	10	0.03	4	0.02	
15	Ephemeral	9.2	0.33	2.1	0.12	
16	Ephemeral	9.5	0.05	2	0.01	
17	Ephemeral	5	0.04	1	0.01	
18	Ephemeral	2.5	0.02	0.5	0.01	
19	Ephemeral	47.5	1.42	4	0.1	Fremont Wash
20	Ephemeral	23.5	0.05	1	0.01	Fremont Wash
21	Ephemeral	24.9	0.19			
22	Ephemeral	12	0.01			
23	Ephemeral	22	0.02			
24	Ephemeral	7	0.02			
25	Ephemeral	15.7	3.48			
26	Ephemeral	12.8	0.04			
27	Ephemeral		0.02			
28	Ephemeral	18	0.02			
29	Ephemeral	15	0.02			
30	Ephemeral	2.5	0.03			
31	Ephemeral	3.5	0.01			
32	Ephemeral	6	0.05			
33	Ephemeral	15.8	0.29			
34	Ephemeral	18.4	0.18			
35	Ephemeral	10	0.03			
37	Ephemeral	13	0.03			
38	Ephemeral	6	0.1			
39	Ephemeral	8.5	0.34			
40	Ephemeral	6	0.09			
41	Ephemeral	5	0.02			
42	Ephemeral	5	0.02			
44	Ephemeral	4	0.09			
45	Ephemeral	13.1	0.72			
46	Ephemeral	5	0.06			
47	Ephemeral	5	0.14			
48	Ephemeral	5	0.02			
49	Ephemeral	12	0.58			
50	Ephemeral	3.5	0.06			
51	Ephemeral	5	0.04			
52	Ephemeral	3	0.01			
53	Ephemeral	2.5	0.01			

Drainage Number/ID	Drainage Type	CDFW Jurisdictional Waters/MESA Waters		USACE Non-Wetlands Waters of the United States		Drainage Name
		Average Width	Acres	Average Width	Acres	
54	Intermittent	2.5	0.02			
55	Intermittent	3.5	0.13			
56	Intermittent	4	0.1			
57	Intermittent	6	0.03			
58	Intermittent	13.5	0.87			
59	Intermittent	8.5	0.04			
60	Intermittent	6	0.04			
61	Intermittent	4	0.06			
62	Intermittent	5	0.02			
63	Intermittent	12	0.16			
64	Intermittent	6	0.02			
65	Intermittent	7.5	0.26			
66	Intermittent	5	0.05			
67	Intermittent	6	0.08			
68	Intermittent	7.8	0.01			
69	Intermittent	7	0.03			
70	Intermittent	7	0.03			
71	Intermittent	4	0.01			
72	Intermittent	5	0.05			
73	Intermittent	6	0.21			
74	Intermittent	4	0.01			
75	Intermittent	5	0.02			
76	Intermittent	6	0.04			
77	Intermittent	6	0.07			
78	Intermittent	2.5	0.01			
79	Intermittent	7	0.01			
80	Intermittent	5	0.01			
81	Intermittent	6	0.02			
82	Intermittent	15	0.28			
83	Intermittent	5	0.01			
84	Intermittent	5	0.04			
85	Intermittent	10	0.11			
86	Intermittent	5	0.01			
87	Intermittent	2.5	0.02			
88	Intermittent	7	0.05			
89	Intermittent	10	0.29			
90	Intermittent	2.5	0.04			
91	Intermittent	2.5	0.01			
92	Intermittent	25	0.43			
93	Intermittent	6.5	0.01			
94	Intermittent	15	0.01			
95	Intermittent	11	0.05			
96	Intermittent	8.5	0.04			
97	Intermittent	20	0.33			
98	Intermittent	7.5	0.01			
99	Intermittent	7.5	0.1			
100	Intermittent	5	0.26			
101	Intermittent	1.5	0.01			
102	Intermittent	1.5	0.02			
103	Intermittent	1.5	0.02			
104	Intermittent	6.8	0.21			
105	Intermittent	7.5	0.04			
106	Intermittent	7.5	0.04			
107	Intermittent	5	0.01			
108	Intermittent	2.5	0.01			

Drainage Number/ID	Drainage Type	CDFW Jurisdictional Waters/MESA Waters		USACE Non-Wetlands Waters of the United States		Drainage Name
		Average Width	Acres	Average Width	Acres	
109	Intermittent	2.5	0.01			
110	Intermittent	5	0.01			
111	Intermittent	2.5	0.04			
MESA-1	Intermittent	n/a	0.35			
MESA-2	Intermittent	n/a	0.25			
MESA-3	Intermittent	n/a	0.37			
MESA-4	Intermittent	n/a	0.07			
MESA-5	Intermittent	n/a	0.58			
MESA-6	Intermittent	n/a	3.99			
MESA-7	Intermittent	n/a	3.87			
MESA-8	Intermittent	n/a	1.15			
MESA-9	Intermittent	n/a	0.77			
MESA-10	Intermittent	n/a	110.65			
MESA-11	Intermittent	n/a	0.26			

Appendix B BIOLOGICAL RESOURCES

B.3 FOCUSED RARE PLANT SURVEY REPORT



SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

51 West Dayton Street
Pasadena, California 91105
Tel 626.240.0587 Fax 626.240.0607
www.swca.com

May 29, 2019

Theresa Carroll
sPower Sustainable Power Group
5000 East Spring Street, Suite 130
Long Beach, CA 90815

RE: Rare Plant Survey for the Baldy Mesa Solar Project, Spring 2019

Dear Ms. Carroll:

This memorandum summarizes the results of the rare plant survey conducted by SWCA Environmental Consultants (SWCA) for the Baldy Mesa Solar Project (project), located in the northwestern portion of the City of Adelanto, San Bernardino County, California (Figures 1–2). The proposed project is a utility-scale solar photovoltaic (PV) project sited on approximately 1,198 acres of private land. The survey was conducted as a supplement to the Biological Resources Technical Report based on the initial January 2019 habitat assessment. As a result of the habitat assessment, it was determined that conducting a rare plant survey between April and early May would capture the blooming period of all rare plants with potential to occur.

Seven rare plants were determined to have the potential to occur within the project site, based on records within the region and the presence of potentially suitable habitat (Table 1). These species include: desert cymopterus (*Cymopterus deserticola*), Mojave monkeyflower (*Diplacus mohavensis*), Booth's evening-primrose (*Eremothera boothii* ssp. *boothii*), Barstow woolly sunflower (*Eriophyllum mohavense*), sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*), short-joint beavertail (*Opuntia basilaris* var. *brachyclada*), and beaver dam breadroot (*Pediomelum castoreum*). Habitat determined to have a high suitability of supporting rare plants was observed in the project area. This habitat included Joshua Tree Woodlands (*Yucca brevifolia* Woodland Alliance), a range of Mojavean desert scrub types, gravelly banks of desert washes, ephemeral drainages, and Mojave-Sonoran Desert Dunes (*Dicoria canescens-Abronia villosa-Panicum urvilleanum* Sparsely Vegetated Alliance). Suitability was determined using California Natural Diversity Database (CNDDB) habitat descriptions for the rare plants with a potential to occur in the project area.[1]

[1] California Department of Fish and Wildlife. 2019. RAREFIND database ed.3.1.1. Electronic database managed by the Natural Diversity Data Base, Wildlife Data and Habitat Analysis Branch, California Department of Fish and Wildlife. Sacramento, California. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed April 2019.

Table 1. Occurrence Potential for Special Status Plants in the Project

Species	Status*	Habitat Description†	Blooming Period	Potential for Occurrence
desert cymopterus *Cymopterus deserticola*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. On fine to coarse, loose, sandy soil of flats in old dune areas with well-drained sand. 630–1,500 m.	March–May	**Low.** There is suitable habitat in the survey area, the nearest record of this species is from 1941, 13.1 miles to the southeast.
Mojave monkeyflower *Diplacus mohavensis*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. Dry sandy or rocky washes along the Mojave River. 660–1,270 m.	April–June	**Low.** There is moderate quality habitat in the survey area, the nearest record of this species is from 1998, 5.9 miles to the east.
Booth's evening-primrose *Eremothera boothii* ssp*. boothii*	2B.3	Joshua Tree Woodland, pinyon and juniper woodland. 290–2,410 m.	June–August	**Low.** There is marginally suitable habitat in the survey area, the nearest record of this species is from 1989, 5.0 miles to the east.
Barstow woolly sunflower *Eriophyllum mohavense*	1B.2	Chenopod scrub, Mojavean desert scrub, desert playas. Mostly in open, silty or sandy areas w/ Saltbush Scrub, or Creosote Bush Scrub. Barren ridges or margins of playas. 605–1,290 m.	March–May	**Moderate.** There is suitable habitat in the survey area, the nearest record of this species is from 2011, 13.3 miles to the northwest.
sagebrush loeflingia *Loeflingia squarrosa* var. *artemisiarum*	2B.2	Great Basin scrub, Sonoran Desert scrub, desert dunes. Sandy flats and dunes. Sandy areas around clay slicks with *Sarcobatus*, *Atriplex*, *Tetradymia*, etc. 700–1,615 m.	April–May	**Low.** There is marginally suitable habitat in the survey area, the nearest record of this species is from 2005, 9.1 miles to the south.
short-joint beavertail *Opuntia basilaris* var*. brachyclada*	1B.2	Chaparral, Joshua Tree Woodland, Mojavean desert scrub, pinon-juniper woodland. Sandy soil or coarse, granitic loam. 425–1,800 m.	April–June	**Low.** There is marginally suitable habitat in the survey area, the nearest record of this species is from 2006, 13.1 miles to the south.
Beaver dam breadroot *Pediomelum castoreum*	1B.2	Joshua Tree Woodland, Mojavean desert scrub. Sandy soils; washes and road cuts. 610–1,065 m.	April–May	**High.** There is suitable habitat in the survey area; there is one overlapping record from 2009.
southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425–2,000 m.	June–August	**Absent.** There is no suitable habitat in the survey area.

Species	Status*	Habitat Description†	Blooming Period	Potential for Occurrence
San Bernardino aster *Symphyotrichum defoliatum*	1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 2–2,040 m.	July–November	**Absent.** There is no suitable habitat in the survey area.
Joshua tree *Yucca brevifolia*	Proposed for FT‡	Well-drained sandy and gravelly alluvial fans adjacent to desert mountain ranges. 450–2,200 feet	Apr–May	**Present.** Joshua trees are known to occur at the Project.

*Ranks for the species included in this list are sourced from CNDDB. Impacts to plants with California Rare Plant Ranks (CRPR) 1 and 2 must be considered pursuant to the California Environmental Quality Act and are treated as sensitive.
CRPR Ranking:
1B: Rare, threatened, or endangered in California and elsewhere.
2B: Rare, threatened, or endangered in California, but more common elsewhere.
0.2: Fairly threatened in California.
0.3: Not very threatened in California
†Habitat descriptions are direct quotes from CNDDB, consisting of the general and microhabitat descriptions of the corresponding element.
‡Proposed for listing as Federally Threatened under the ESA.

Joshua tree (*Yucca brevifolia*), which is present on-site, is also of note because it is under consideration for Endangered Species Act (ESA) listing. Species that have been proposed for ESA listing but for which the U.S. Fish and Wildlife Service has not made a listing decision are not afforded any specific protections. Individual Joshua trees were not mapped for the purposes of this survey.

Methods

Prior to the field survey, a desktop review of all potential rare plants was conducted and likelihood of occurrence was established. A California Department of Fish and Wildlife (CDFW) CNDDB RareFind 5 query determined that a beaver dam breadroot record (EONDX 84359) overlapped with a portion of the project site.[2] No records of any other sensitive plant species were documented in the project area. In addition, vegetation communities initially identified during the January 2019 survey were updated and refined using the *Manual of California Vegetation* (MCV2)[3] (Figures 3 and 4a–4d).

SWCA botanists Luis Aguilar and Ryan Myers conducted a field survey from April 15 through April 18, 2019, and on May 2 and 3, 2019. Conditions were mostly sunny and warm, with temperatures between 50and 88 degrees Fahrenheit, and wind speeds from 0 to 20 miles per hour.

A pedestrian intuitive controlled survey was conducted on the project site with focus on areas determined to have the highest potential for rare plant species based on specific habitat requirements including: Joshua Tree Woodlands, gravelly banks of desert washes, ephemeral drainages, and Mojave-Sonoran Desert Dunes. Habitat suitability was determined using the CNDDB habitat descriptions of all the species with a potential to occur.

The entirety of the project area was surveyed with varying degrees of intensity. Areas with a high potential for rare plants (approximately 25% of the study area) were surveyed completely: 100% visual

[2] California Department of Fish and Wildlife, 2019.
[3] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California.

coverage was achieved by walking transects spaced 10 m apart in these areas. Areas lacking a high potential included: areas with high disturbance, low plant diversity, and/or high non-native plant cover; and vegetation communities which did not match the habitat descriptions for any of the rare plants listed in Table 1. These areas were traversed along transects determined to be representative of these areas by the botanists. Areas without high potential for rare plants received approximately 20% visual coverage during the survey.

Plant species or subspecies were identified to the highest taxonomic level possible when encountered. Plants that could not be identified in the field were collected and later identified using *The Jepson Manual: Vascular Plants of California, Second Edition*.[4] Rare plants encountered were recorded using a global positioning system (GPS) unit with submeter accuracy.

Results

One rare plant species was observed within the project area: beaver dam breadroot (Figure 5 and Photo 8). Four other individual beaver dam breadroots were found within approximately 150 m of the site; all near the existing CNDDB record. These individuals were found at the interface of disturbed Allscale Scrub (*Atriplex polycarpa* Shrubland Alliance) and Joshua Tree Woodland, near road cuts on compacted substrate with adjacent off-road vehicle tracks.

Common shrubs identified on-site included Nevada joint fir (*Ephedra nevadensis*), white bursage (*Ambrosia dumosa*), fourwing saltbush (*Atriplex canescens*), allscale saltbush (*A. polycarpa*), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), Anderson's box thorn (*Lycium andersonii*), and creosote bush (*Larrea tridentata*). Common herbaceous species included snake's-head (*Malacothrix coulteri*), desert dandelion (*M. glabrata*), desert pincushion (*Chaenactis stevioides*), devil's lettuce (*Amsinckia tessellata*), goldfields (*Lasthenia gracilis*), rigid spineflower (*Chorizanthe rigida*), and other nonnative herbs and grasses. A complete list of plant species encountered can be found in Appendix A.

Eight vegetation communities and one land cover type were identified on-site (Table 2 and Figures 4a–4d): White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance), Fourwing Saltbush Scrub (*Atriplex canescens* Shrubland Alliance), Allscale Scrub, Mojave-Sonoran Desert Dunes, Nevada Joint Fir Scrub (*Ephedra nevadensis* Shrubland Alliance), Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance), Creosote Bush-White Bursage Scrub (*Larrea tridentata-Ambrosia dumosa* Shrubland Alliance), and Joshua Tree Woodland. Joshua Tree Woodlands are defined by the presence of at least 1% cover of Joshua trees, evenly distributed, and less than 1% of pines or junipers.[5] Photos 1–7 illustrate the conditions on-site. Mojave-Sonoran Desert Dunes and Joshua Tree Woodlands are designated as a state rank 3.2 (S3.2) natural community by CDFW.[6] Both vegetation communities are considered sensitive and are characterized by CDFW as being threatened and having 21–100 viable occurrences worldwide/statewide, and/or more than 2,590–12,950 ha (6,400–32,000 acres)(Table 2 and Figures 4a–4d).

Table 2. Summary of Updated Vegetation and Land Cover Types

[4] Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California*, second edition. University of California Press, Berkeley.
[5] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009.
[6] California Department of Fish and Wildlife. 2018. California Natural Community List. Vegetation Classification and Mapping Program, California Department of Fish and Game. Sacramento, California.

Vegetation Alliance or Cover Type	Global Rank*	State Rank†	Acres within the project site‡
White Bursage Scrub *Ambrosia dumosa* Shrubland Alliance	G5	S5	32.2
Fourwing Saltbush Scrub *Atriplex canescens* Shrubland Alliance	G5	S4	8.9
Allscale Scrub *Atriplex polycarpa* Shrubland Alliance	G4	S4	404.2
Mojave-Sonoran Desert Dunes *Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance	G4	S3.2	1.6
Nevada Joint Fir Scrub *Ephedra nevadensis* Shrubland Alliance	G5	S4	3.2
Creosote Bush Scrub *Larrea tridentata* Shrubland Alliance	G5	S5	127.9
Creosote Bush - White Bursage Scrub *Larrea tridentata - Ambrosia dumosa* Shrubland Alliance	G5	S5	562.5
Joshua Tree Woodland *Yucca brevifolia* Woodland Alliance	G4	S3.2	44.1
Developed/Disturbed	N/A	N/A	11.6

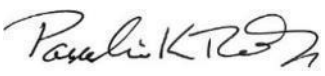
*Global Rank:
G4 = Over 100 viable occurrences worldwide/statewide, and/or more than 32,000 acres
G5 = Demonstrably secure because of its worldwide/statewide abundance
†State Rank:
S3 = 21–100 viable occurrences worldwide/statewide, and/or more than 6,400–32,000 acres
S4 = Over 100 viable occurrences worldwide/statewide, and/or more than 32,000 acres
S5 = Demonstrably secure because of its worldwide/statewide abundance
Additional State Threat Rank:
0.2 = Threatened
‡ Disturbed and undisturbed vegetation alliances were mapped separately as shown in Figures 4a–4d; acres here include both.

Discussion

Rare annual plant species may not emerge or bloom every year and their growth is dependent on specific environmental cues, particularly temperature and precipitation. The conditions during this survey were optimal for detecting annual plants given above average rainfall accompanied by below normal temperatures this past winter, causing the proliferation in annual wildflower species in the Adelanto area and many other Southern California areas in the spring of 2019. The focused surveys were conducted in areas of the project determined to have the highest potential for rare plants based on specific habitat requirements, rather than a 100% visual coverage survey of the entire project. In addition, the conditions and timing were ideal for rare plant detection. SWCA has a high degree of confidence that all beaver dam breadroot individuals were found within the project, and that the six other rare species evaluated are absent from the project site.

Please feel free to contact me at PRoberts@swca.com or (626) 240-0587 ext. 6616 if you have any questions regarding results of the survey or any information presented within this report.

Sincerely,



Pauline K. Roberts, Ph.D.
Natural Resources Team Lead

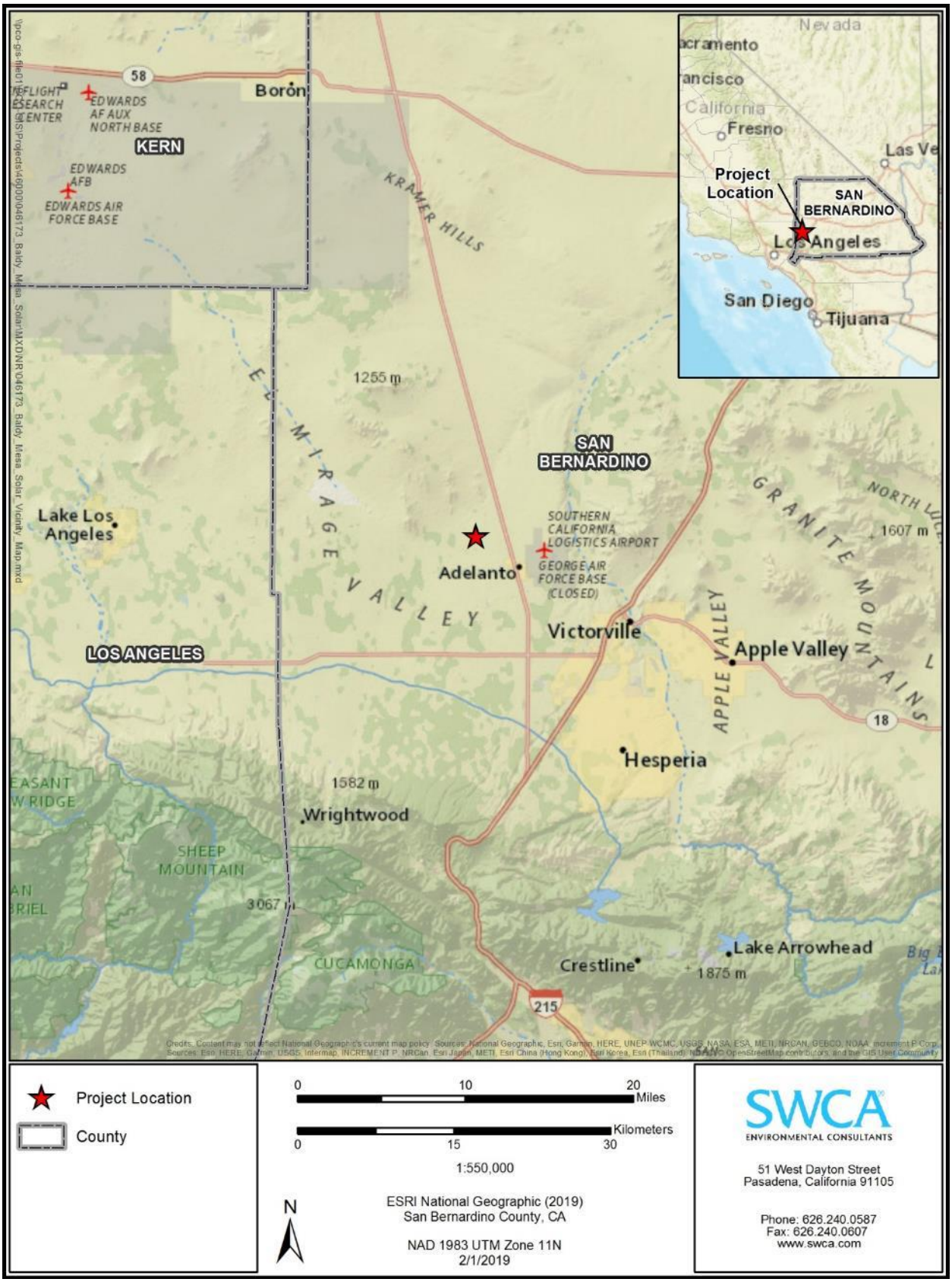


Figure 1. Regional vicinity map.

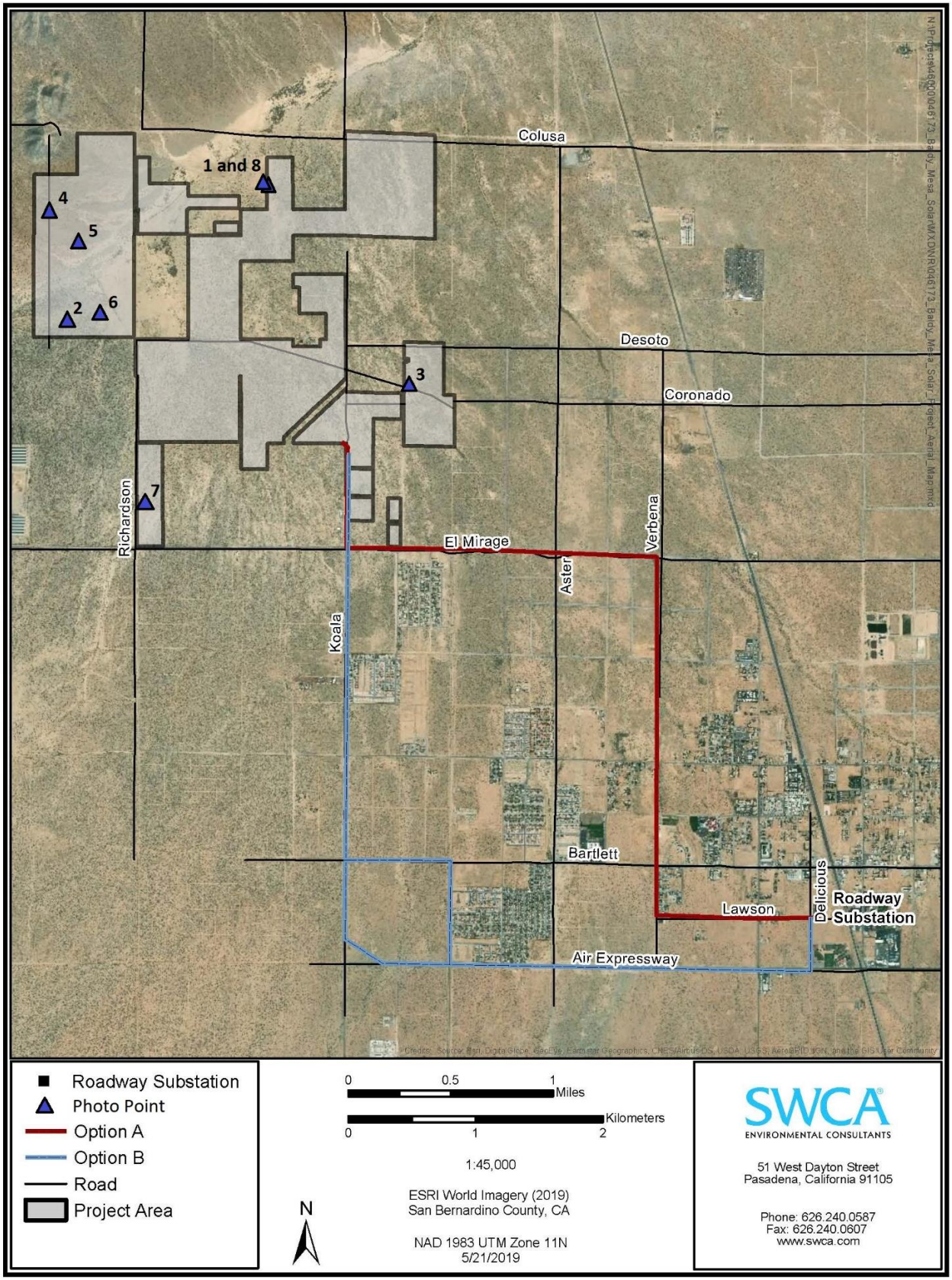


Figure 2. Project location with aerial photo background and photo points.

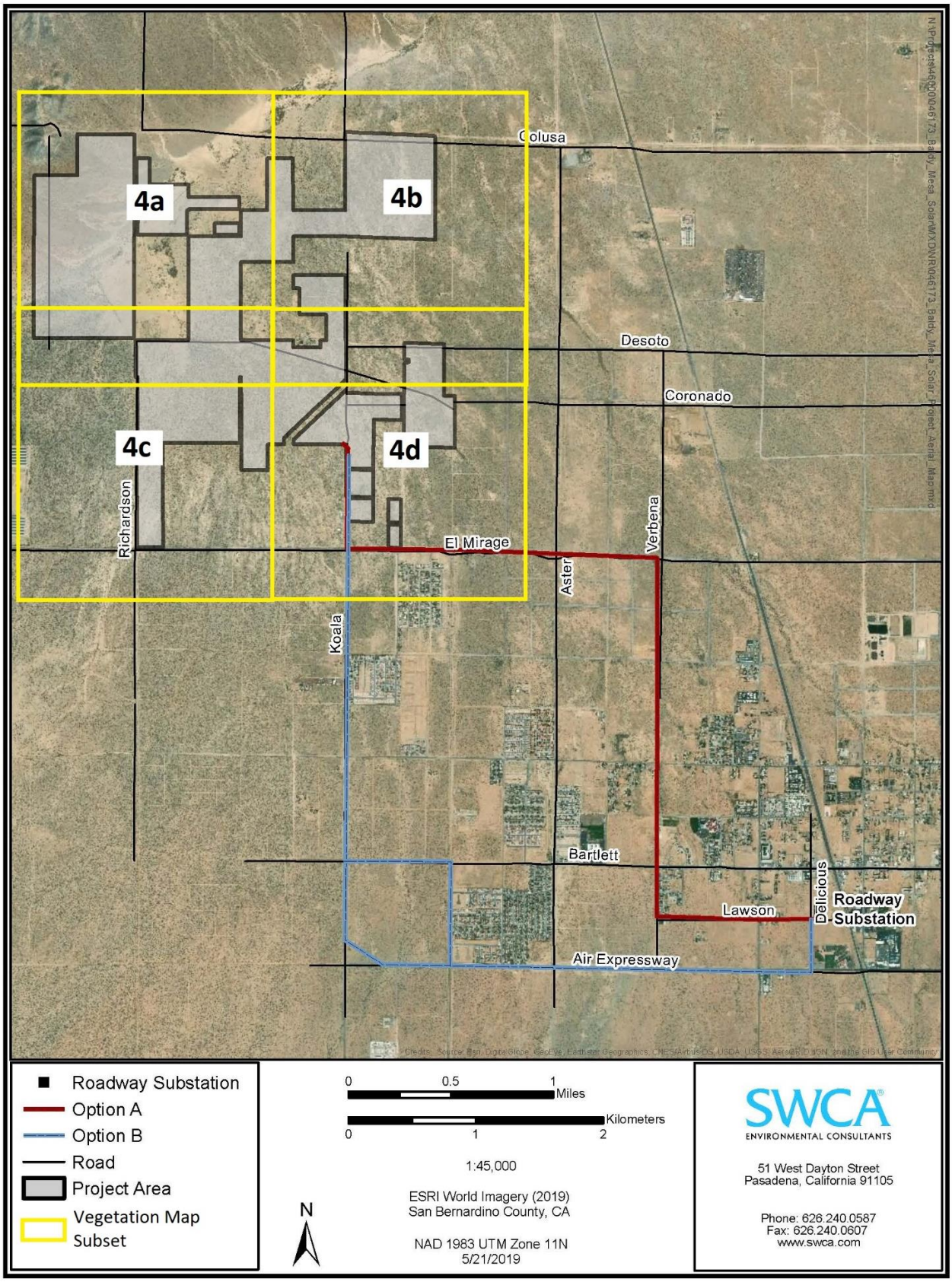


Figure 3. Vegetation community and land cover types overview.

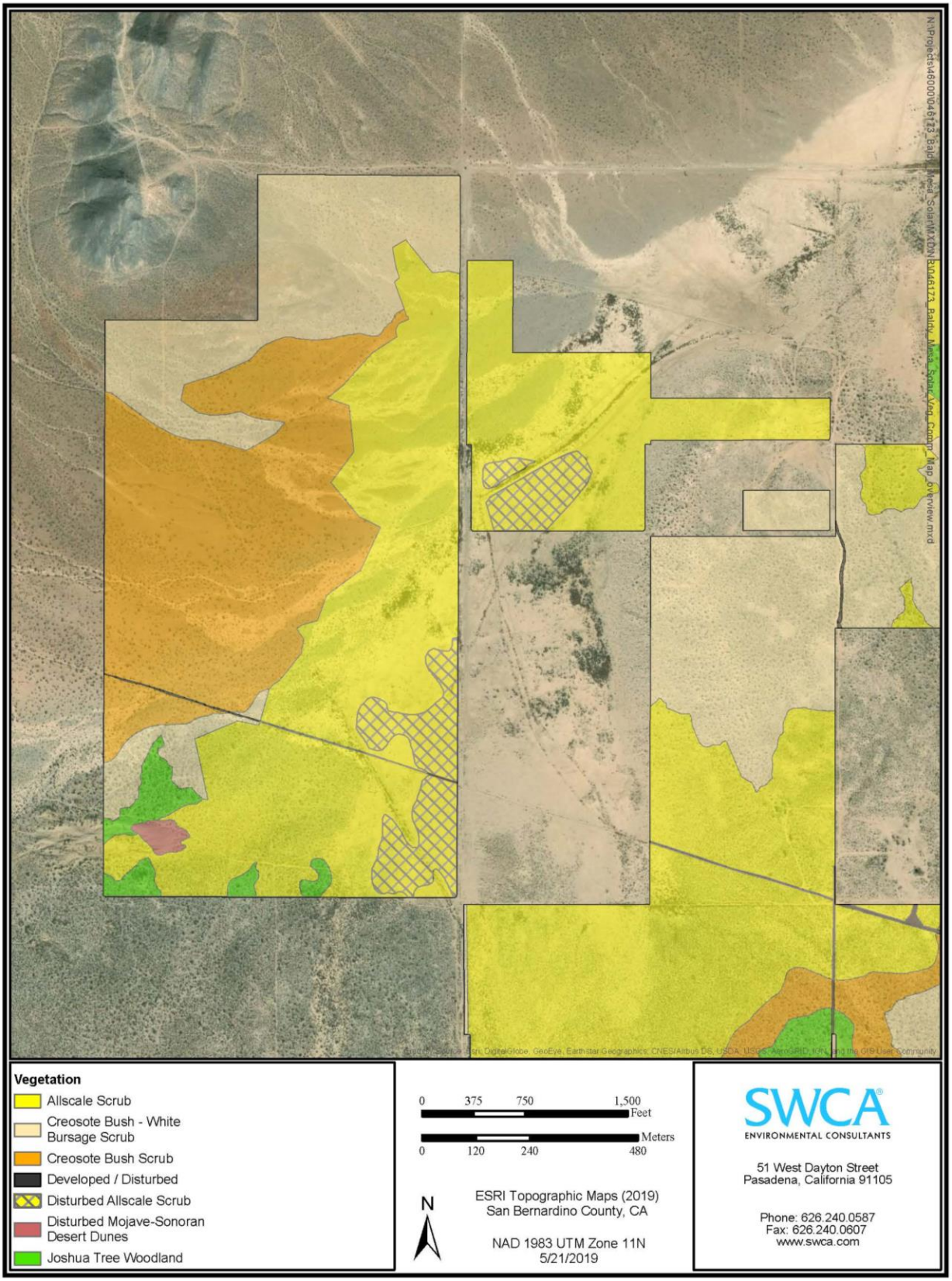


Figure 4a. Updated vegetation community and land cover types in the northwest corner of the project.

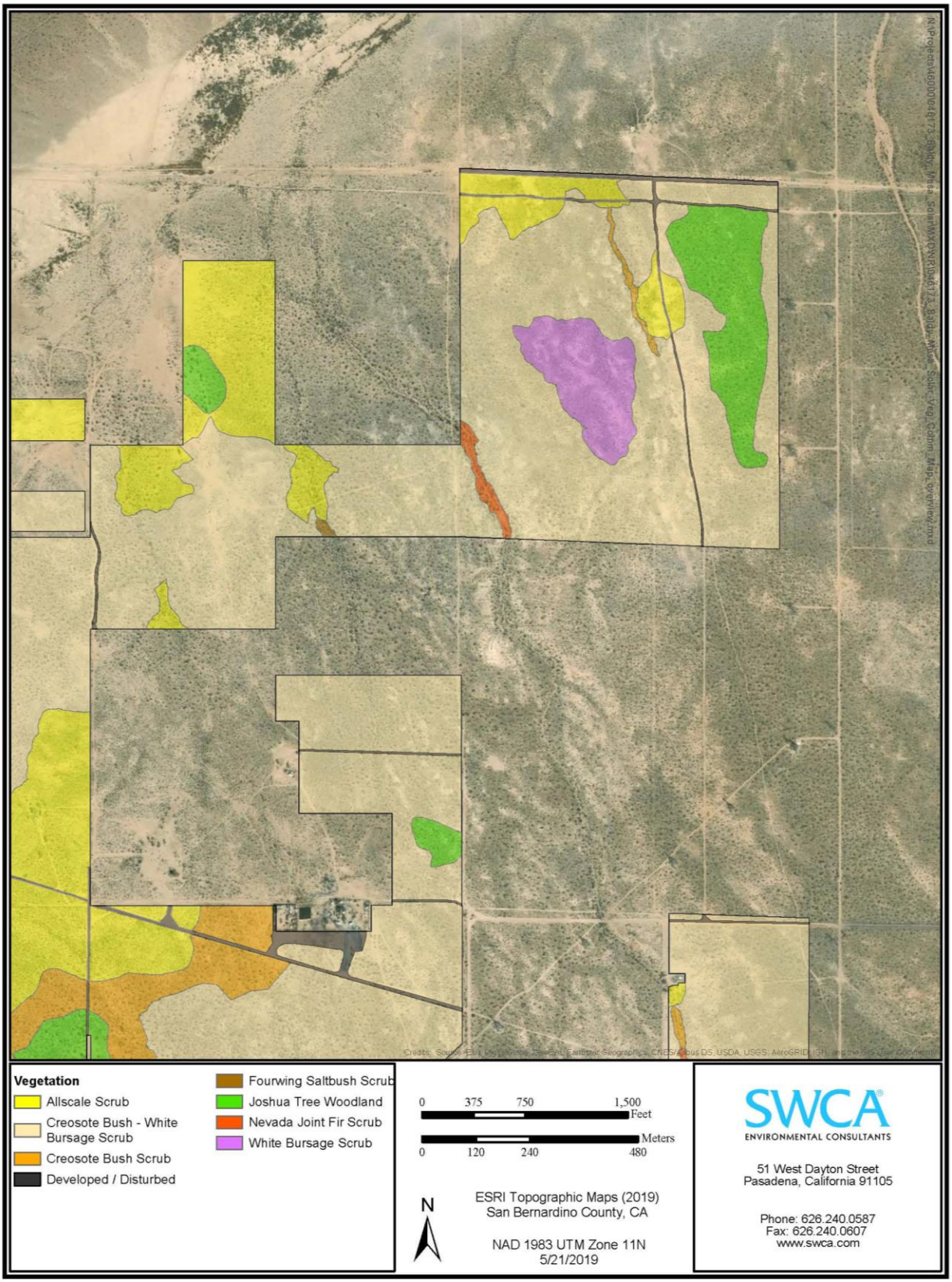


Figure 4b. Updated vegetation community and land cover types in the northeast corner of the project.

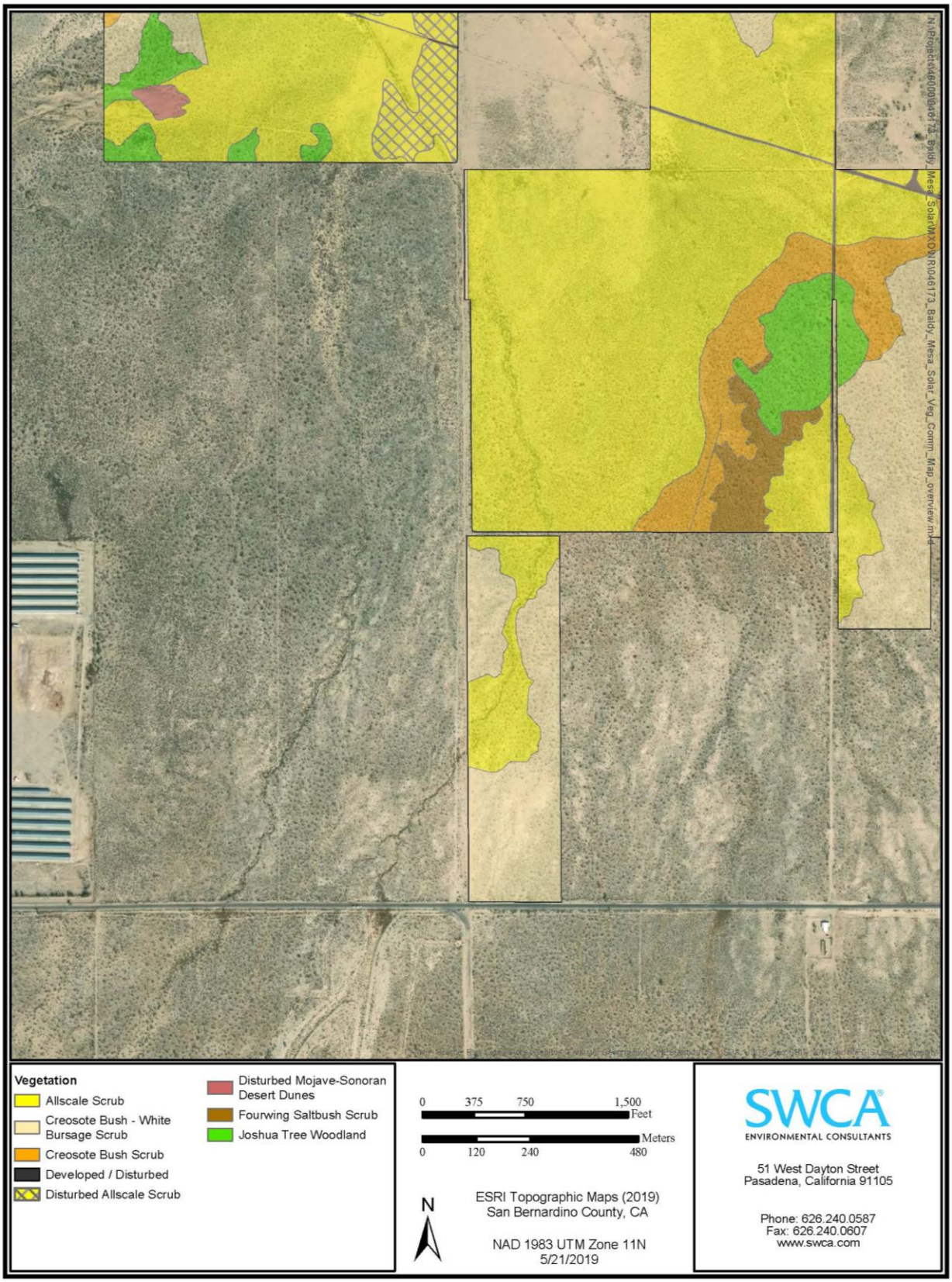


Figure 4c. Updated vegetation community and land cover types in the southwest corner of the project.

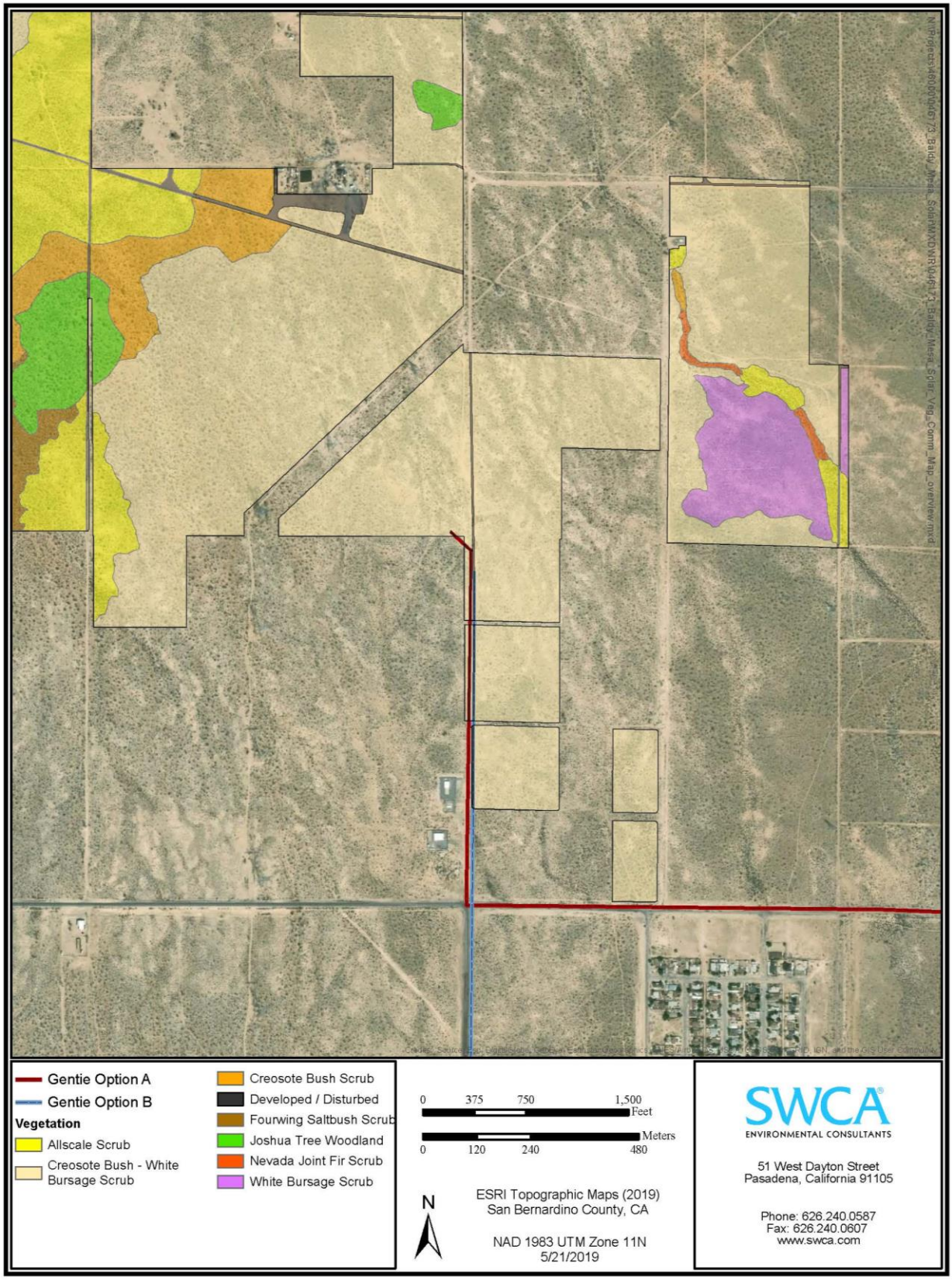


Figure 4d. Updated vegetation community and land cover types in the southeast corner of the project.

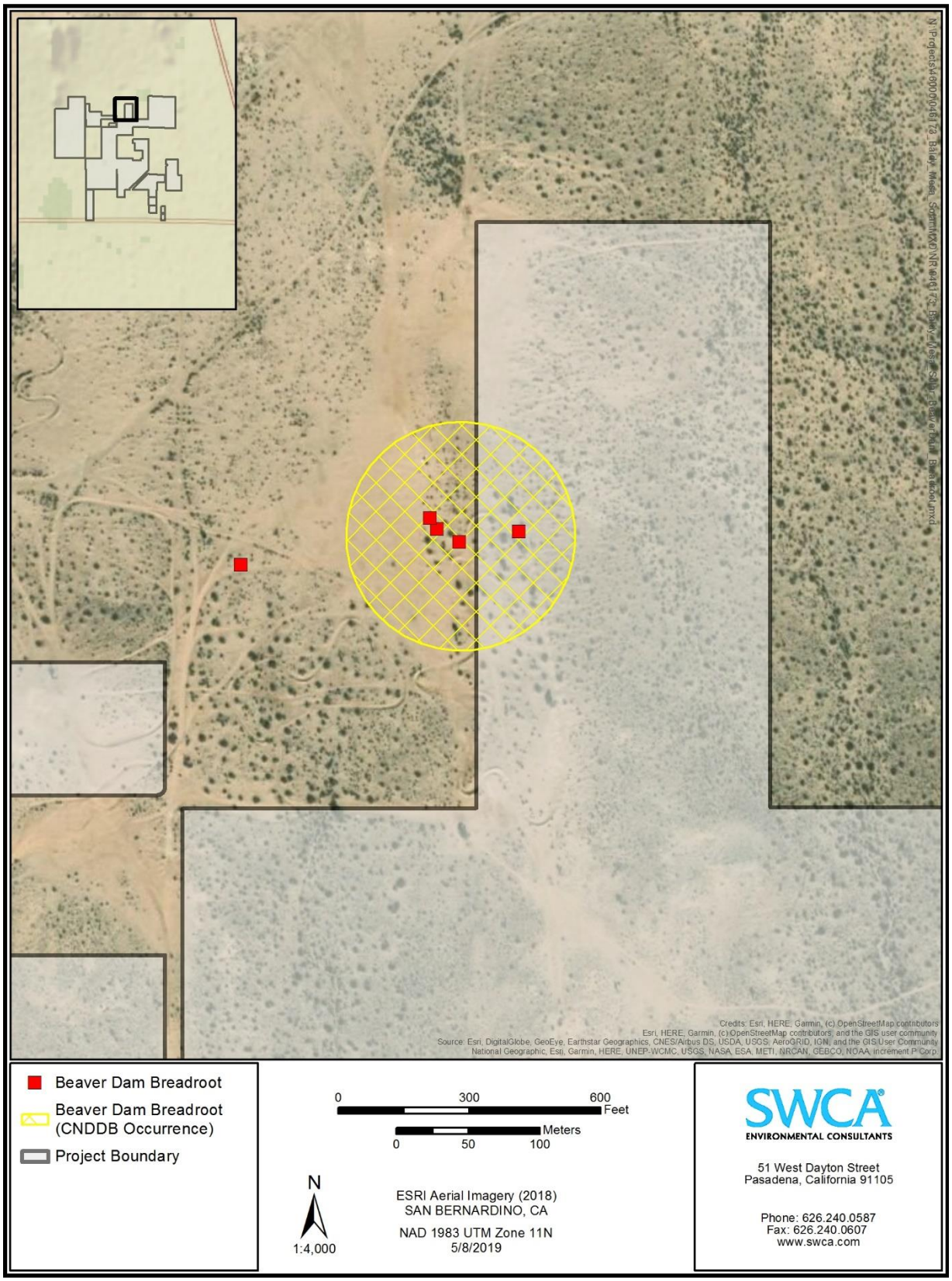


Figure 5. Beaver dam breadroot individuals found within and near project.



Photo Point 1. Boundary between Joshua Tree Woodland and Allscale Scrub. Signs of off-road vehicle activity are visible in the foreground. View southeast on May 3, 2019.



Photo 2. Disturbed Mojave-Sonoran Desert Dunes at western edge of the project. View southward on May 2, 2019.



Photo 3. Nevada Joint Fir Scrub in the southeast corner of the project. View southeast on May 3, 2019.



Photo 4. Gravelly outcrops in Creosote Bush - White Bursage Scrub from northwestern end of project. View southeast on May 2, 2019.



Photo 5. Creosote Bush Scrub in western portion of the project. View east on May 2, 2019.



Photo 6. Disturbed Allscale Scrub in the western portion of project. View north on May 2, 2019.



Photo 7. Gravelly outcrops in Creosote Bush - White Bursage Scrub from northwestern end of project. View south on May 2, 2019.



Photo 8. Beaver Dam breadroot observed on May 3, 2019. Found in the northern portion of the project.

Appendix A

Floral Compendium

Scientific Name	Common Name
GYMNOSPERMS	
EPHEDRACEAE	**EPHEDRA FAMILY**
Ephedra nevadensis	Nevada joint fir
ANGIOSPERMS (EUDICOTS)	
APIACEAE	**CARROT FAMILY**
Lomatium mohavense	Mohave wild parsley
ASTERACEAE	**SUNFLOWER FAMILY**
Acamptopappus sphaerocephalus var. *sphaerocephalus*	Rayless goldenhead
Ambrosia acanthicarpa	annual bur-sage
Ambrosia dumosa	white bursage
Ambrosia salsola	cheesebush
Artemisia spinescens	budsage
Chaenactis fremontii	Fremont pincushion
Chaenactis stevioides	desert pincushion
Chaenactis xantiana	fleshy pincushion
Ericameria cooperi	Cooper's goldenbush
Ericameria nauseosa	rubber rabbitbrush
Eriophyllum wallacei	Wallace's woolly daisy
Glyptopleura setulosa	holy dandelion
Gutierrezia sp.	snakeweed
Layia glandulosa	white layia
Leptosyne bigelovii	Bigelow coreopsis
Leptosyne californica	California coreopsis
Malacothrix coulteri	snake's-head
Malacothrix glabrata	desert dandelion
Rafinesquia neomexicana	desert chicory
Stephanomeria sp.	wire lettuce
Tetradymia glabrata	little leaf horsebush
Tetradymia stenolepis	Mojave cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave woodyaster
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia tessellata	Devil's lettuce
Cryptantha circumscissa var. *circumscissa*	cushion cryptantha
Cryptantha micrantha var. *micrantha*	red-root cryptantha
Cryptantha pterocarya var. *pterocarya*	winged-nut cryptantha
Nama demissa var. *demissa*	purplemat
Pectocarya linearis	pectocarya
Phacelia bicolor	twocolor phacelia

Scientific Name	**Common Name**
Phacelia crenulata	notch leaved phacelia
Phacelia fremontii	Fremont's phacelia
Tiquilia plicata	fanleaf crinklemat
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica tournefortii**	Sahara mustard
Caulanthus lasiophyllus	California mustard
Descurania pinata	Western tansy mustard
*Hirschfeldia incana**	shortpod mustard
Lepidium flavum	Yellow pepperweed
Lepidium fremontii	desert pepperweed
*Sisymbrium altissimum**	tumble mustard
*Sisymbrium irio**	London rocket
CACTACEAE	**CACTUS FAMILY**
Cylindropuntia echinocarpa	golden cholla
Opuntia basilaris var. *basilaris*	beavertail cactus
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Atriplex canescens	fourwing saltbush
Atriplex confertifolia	shadscale
Atriplex polycarpa	allscale saltbush
Grayia spinosa	spiny hopsage
Krascheninnikovia lanata	winterfat
*Salsola tragus**	Russian thistle
EUPHORBIACEAE	**SPURGE FAMILY**
Croton californicus	California croton
Euphorbia albomarginata	rattlesnake sandmat
Stillingia paucidentata	Mojave stillingia
FABACEAE	**LEGUME FAMILY**
Astragalus didymocarpus var. *dispermus*	dwarf white milk vetch
Astragalus layneae	Layne milkvetch
Astragalus lentiginous var. *variabilis*	freckled milk vetch
Lupinus odoratus	Mojave lupine
Pediomelum castoreum (CRPR 1B.2)	Beaver Dam breadroot
Psorothamnus arborescens var. *minutifolius*	little leaved mojave indigo bush
GERANIACEAE	**GERANIUM FAMILY**
*Erodium cicutarium**	red stemmed filaree
LAMIACEAE	**MINT FAMILY**
Salvia columbariae	chia
LOASACEAE	**LOASA FAMILY**
Mentzelia albicaulis	small flowered blazing star
Mentzelia veatchiana	Veatch's blazingstar

Scientific Name	Common Name
MALVACEAE	**MALLOW FAMILY**
Eremalche exilis	mallow
Sphaeralcea ambigua var. *ambigua*	apricot mallow
MONTIACEAE	**MINER'S LETTUCE FAMILY**
Calyptridium monandrum	common calyptridium
NYCTAGINACEAE	**FOUR O'CLOCK FAMILY**
Abronia villosa var. *villosa*	desert sand-verbena
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Camissonia campestris ssp. *campestris*	field sun cup
Chylismia claviformis ssp. *claviformis*	browneyes
Eremothera boothii ssp. *desertorum*	Booth's desert primrose
Oenothera californica ssp. *californica*	California evening primrose
PAPAVERACEAE	**POPPY FAMILY**
Eschscholzia glyptosperma	desert gold poppy
Eschscholzia minutiflora	pygmy poppy
POLEMONIACEAE	**PHLOX FAMILY**
Eriastrum eremicum ssp. *eremicum*	desert eriastrum
Gilia cana	showy gilia
Gilia latifolia	broad flowered gilia
Ipomopsis polycladon	branching gilia
Linanthus dichotomus ssp. *dichotomus*	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
POLYGONACEAE	**BUCKWHEAT FAMILY**
Chorizanthe brevicornu var. *brevicornu*	brittle spineflower
Chorizanthe rigida	devil’s spineflower
Eriogonum baileyi var. *baileyi*	Bailey's buckwheat
Eriogonum fasciculatum ssp. *polifolium*	California buckwheat
Eriogonum gracillimum	rose-and-white buckwheat
Eriogonum pusillum	yellow turbans
Rumex hymenosepalus	canaigre, wild-rhubarb
RANUNCULACEAE	**BUTTERCUP FAMILY**
Delphinium parishii ssp. *parishii*	desert larkspur
SOLANACEAE	**NIGHTSHADE FAMILY**
Lycium andersonii	Anderson’s box thorn
Lycium cooperi	Cooper’s desert thorn
ZYGOPHYLLACEAE	**CALTROP FAMILY**
Larrea tridentata	creosote bush

Scientific Name	Common Name
ANGIOSPERMS (MONOCOTS)	
AGAVACEAE	**AGAVE FAMILY**
Yucca brevifolia	Joshua tree
MELANTHIACEAE	**FALSE-HELLEBORE FAMILY**
Toxicoscordion brevibracteatum	*d*esert death camas
POACEAE	**GRASS FAMILY**
Bromus madritensis ssp. *rubens**	red brome
*Bromus tectorum**	cheat grass
*Hordeum murinum**	foxtail barley
Festuca octoflora	sixweeks grass
*Schismus barbatus**	Mediterranean grass
Stipa hymenoides	sand grass
THEMIDACEAE	**BRODIAEA FAMILY**
Dichelostemma capitatum	blue dicks

*Non-Native Species

Appendix B BIOLOGICAL RESOURCES

B.4 FOCUSED DESERT TORTOISE SURVEY REPORT



SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

51 West Dayton Street
Pasadena, California 91105
Tel 626.240.0587 Fax 626.240.0607
www.swca.com

May 29, 2019

Theresa Carroll
sPower Sustainable Power Group
5000 East Spring Street, Suite 130
Long Beach, CA 90815

RE: Desert Tortoise Survey for the Baldy Mesa Solar Project

Dear Ms. Carroll:

This memorandum describes the desert tortoise (*Gopherus agassizii*) survey conducted by SWCA Environmental Consultants (SWCA) for the Baldy Mesa Solar Project (project), located in the northwestern portion of the City of Adelanto, San Bernardino County, California (Figures 1–3). The proposed project is a utility-scale solar photovoltaic (PV) project sited on approximately 1,198 acres of private land.

Desert tortoise is listed as threatened pursuant to the federal Endangered Species Act (ESA) and threatened under the California Endangered Species Act (CESA). The desert tortoise is a large, long-lived herbivorous reptile that occurs within the Mojave and Sonoran deserts in southern California, Nevada, Arizona, and the southwestern tip of Utah. Desert tortoises spend much of their lives underground in burrows, even during seasons that include aboveground activity. Tortoises typically emerge from wintering burrows in early spring and remain active until fall. During hot summer weather they spend significant periods inactive underground, during which they are able to reduce metabolism and water loss and consume very little food.

The Mojave population of desert tortoise consists of individuals found north and west of the Colorado River within the Mojave and Colorado deserts. Although individuals have a long period of reproductive potential, sexual maturity is not reached until 13–20 years of age and reproductive rates are low. Mortality rates are highest before individuals reach sexual maturity, meaning small changes in adult survivorship can lead to rapid declines in populations.

The desert tortoise revised recovery plan designated five recovery units outlining recovery actions tailored to specific areas of the desert tortoise geographic range.[1] The project is located within the Western Mojave Recovery Unit, which is entirely in the state of California. Prior to human development, habitat within this unit was well connected allowing adequate gene flow and healthy populations of desert tortoise across large geographic areas and ecotones. One distinguishing characteristic of the Western Mojave Recovery Unit is the timing of rainfall and subsequent vegetation communities. Most rainfall occurs in the fall and winter, producing winter annuals as the primary food source for tortoises in this region. Tortoises in this region are also more likely to prolonged periods of inactivity in the summer months than tortoises in other recovery units due to higher temperatures and very low likelihood of summer rains.[1]

[1] U.S. Fish and Wildlife Service. 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

The purpose of this survey was to document all tortoises and signs such as carcasses, burrows, and scat within the project site and along each gen-tie option. The survey was conducted according to the guidance in the U.S. Fish and Wildlife (USFWS) survey protocol during the April–May spring survey period.[2] In addition to desert tortoise, other special status species were recorded as they were encountered. These include species that frequently occur throughout the Mojave Desert, including burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis arsipus*), American badger (*Taxidea taxus*), and loggerhead shrike (*Lanius ludovicianus*). Burrowing owl, American badger, and loggerhead shrike are all listed as Species of Special Concern by the California Department of Fish and Wildlife (CDFW); desert kit fox is protected from take in California as a fur-bearing mammal. None of these species are ESA or CESA listed. Several were previously determined to be present within the project site during the January survey. For these species, the purpose of the April survey was to document their distribution throughout the project site. Because the survey took place during nesting bird season (typically February 1–August 31 in Southern California), active and inactive bird nests were also documented.

Habitat Conditions - Vegetation Communities and Food Plants

Vegetation communities were mapped within the project area by SWCA in 2019, which identified plant communities characteristic of desert tortoise habitat (Figure 4).[3] Typical desert tortoise habitat consists of alluvial fans and colluvial/bedrock slopes with vegetation communities consisting of creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), and/or saltbush (*Atriplex* spp.) along with high diversity of food plants such as perennial grasses, woody perennials, cacti, and non-native species such as red brome (*Bromus madritensis* ssp. *rubens*) and red-stem filaree (*Erodium cicutarium*). While most of the project area is composed of suitable vegetation communities, disturbances and anthropogenic effects at the project site have reduced habitat quality for desert tortoise at the project site.

Vegetation alliances mapped at the project site included White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance), Fourwing Saltbush Scrub (*Atriplex canescens* Shrubland Alliance), Allscale Scrub (*Atriplex polycarpa* Shrubland Alliance), Mojave-Sonoran Desert Dunes (*Dicoria canescens–Abronia villosa–Panicum urvilleanum* Sparsely Vegetated Alliance), Nevada Joint Fir Scrub (*Ephedra nevadensis* Shrubland Alliance), Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance), Creosote Bush–White Bursage Scrub (*Larrea tridentata–Ambrosia dumosa* Shrubland Alliance), and Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance)(see Figure 4).

A diverse array of annual and perennial food plants for desert tortoise were recorded at the project site in spring 2019, although the area did not experience the heavy spring bloom that would typically follow high overwinter rainfall. Observed forage plants on the project site included Layne milkvetch (*Astragalus layneae*), dwarf white milk vetch (*Astragalus didymocarpus* var. *dispermus*), Booth's desert primrose (*Eremothera boothii* ssp. *desertorum*), small flowered blazing star (*Mentzelia albicaulis*), rattlesnake sandmat (*Euphorbia albomarginata*), desert eriastrum (*Eriastrum eremicum* ssp. *eremicum*), Mojave lupine (*Lupinus odoratus*), snake's-head (*Malacothrix coulter*), wire lettuce (*Stephanomeria* spp.), Fremont pincushion (*Chaenactis fremontii*), Veatch's blazing star (*Mentzelia veatchiana*), devil's lettuce (*Amsinckia tessellata*), and red stemmed filaree (*Erodium cicutarium*).

[2] U.S. Fish and Wildlife Service, 2017.
[3] SWCA Environmental Consultants. 2019. *Rare Plant Survey for the Baldy Mesa Solar Project, Spring 2019.* Pasadena, California.

Methods

SWCA biologists Justin Fowler, Marshall Webb, Par Singhaseni, Carlos Jauregui, Ryan Myers, and Cristy Rice (Appendix A) conducted the desert tortoise survey in teams of three or four during a three-week period from April 8 through 25. The survey was conducted in accordance with the 2017 USFWS survey protocol.[4] Conditions were good for the detection of live tortoises, with temperatures reaching no more than 94 degrees Fahrenheit on any given day. When possible, daily start times were adjusted to match the optimal temperature for tortoise encounters. Table 1 summarizes the conditions throughout the survey period.

Table 1. Weather Conditions and Survey Times

Date	Start Time	End Time	Temperature (°F)	Wind Speed (mph)	Conditions
4/8	11:15	16:25	83–87	2–5	Sunny
4/9	09:15	17:00	60–68	13–23	Sunny
4/10	09:30	17:05	55–68	5–10	Sunny
4/11	09:15	17:00	58–69	5–10	Cloudy
4/12	09:30	13:30	56-71	10–20	Sunny
4/15	10:45	15:30	68–76	5–10	Sunny
4/16	09:15	14:30	57–65	10–20	Sunny
4/17	09:15	16:00	61–88	0–10	Sunny
4/18	09:15	16:15	71–89	0–10	Sunny
4/19	09:15	11:00	76–81	0–5	Sunny
4/22	10:30	15:00	73–79	5–10	Sunny
4/23	08:30	15:00	68–88	5–10	Sunny
4/24	08:30	14:30	72–94	0–5	Sunny
4/25	08:45	11:15	76–88	0–5	Sunny

The biologists walked 10-meter-wide belt transects throughout the entire project site. In addition, transects were walked outside the western perimeter (Figure 5), near where the majority of tortoise sign had been found and anthropogenic impacts were negligible. Survey permission was not generally available outside the project area, so pedestrian surveys were not conducted systematically outside the project boundary. In addition to the project site, the biologists also surveyed the proposed gen-tie routes by walking three transects spaced 10 meters apart on each side of the route. Vehicle surveys were used if the habitat was considered unsuitable for desert tortoise; unsuitable areas included areas previously graded and devoid of vegetation adjacent to paved roadways, areas that were heavily disturbed by other means, and residential properties.

During the survey, biologists searched for live tortoises and signs of tortoise presence. Signs include scat, carcasses, burrows, drinking depressions, courtship rings, tracks, herbivory, or eggshell fragments. When tortoise sign was found, the biologists determined the approximate age based on the condition of the sign.

Tortoise burrows were identified by the distinctive half-moon shape of the entrance and the walls of the tunnel. When a potential tortoise burrow was encountered, a mirror or bright flashlight was used to view

[4] U.S. Fish and Wildlife Service, 2017.

the interior of the burrow. Each burrow was assigned a condition class as described in the USFWS *Desert Tortoise (Mojave Population) Field Manual*.[5] The condition classifications are as follows:

- Class 1: currently active, with desert tortoise or recent desert tortoise sign
- Class 2: good condition, definitely desert tortoise; no evidence of recent use
- Class 3: deteriorated condition which includes collapsed burrows; definitely desert tortoise
- Class 4: good condition; possibly desert tortoise
- Class 5: deteriorated condition which includes collapsed burrows; possibly desert tortoise

In addition to burrows excavated by desert tortoise, tortoises are also known to seek shelter under shrubs, within caliche caves, and within burrows excavated by other species. Such burrows may be excavated by burrowing owl, desert kit fox, coyote (*Canis latrans*), or American badger. Each non-tortoise burrow or den was classified based on the shape of the entrance, size, and presence of sign, such as scat, claw mark scrapes, owl pellets, whitewash, or prey remains. The biologists also recorded the occupancy status of each burrow or den. The presence of extensive spiderwebs, debris, or partial collapse was taken to indicate that the burrow/den was likely unoccupied. All burrow and den locations were recorded using a global positioning system (GPS) unit. Lastly, biologists documented the faunal diversity observed within the project site, and incidental floral observations.

Results

Desert Tortoise

No live tortoises or carcasses were found during the survey. While not all tortoises are expected to be visible at any given time, daily surveys coincided with the highest likelihood of live, above ground observations both seasonally and thermally. Additionally, all open burrows were visually searched and did not yield any live tortoises or carcasses.

The majority of the gen-tie route was found to be unsuitable habitat for desert tortoise. This includes the portions along Koala Road, Air Expressway Road, Raccoon Avenue, and Delicious Street that were previously graded and devoid of vegetation. Remaining portions of the gen-tie route are very low quality due to proximity to high speed roadways, residences, illegal dumping, and off-road vehicle travel.

Across the entire project site, 59 burrows were identified as tortoise burrows, meaning that they had been originally excavated by desert tortoise, whether or not they were currently suitable for occupancy (see Figure 5; Appendix B). One burrow was identified as a Class 1 burrow (Photo 1), located in the northeastern portion of the project. The burrow was relatively large and identified as Class 1 based on a recent (less than one year old) scat found within it (Photo 2). The scat was classified as recent due to the retention of dark coloration and intact state, but it did not retain any moisture. It should be noted that the scat was found inside the burrow and had not been exposed to the typical desert elements, possibly slowing the aging process. No other scat was found in the immediate area around this burrow. The Class 1 burrow was relatively deep and the end of the burrow could not be viewed with a mirror or flashlight. The burrow was revisited on four separate occasions during the subsequent two-and-a-half weeks, and no new scat, tracks, or evidence of herbivory (i.e. bite marks) was found at or near the burrow.

An additional scat, older than one year, was found near a Class 2 burrow, approximately 250 m southwest of the Class 1 burrow (Photo 3). This scat did not retain any dark coloration or moisture, and was disaggregated. All remaining tortoise burrows were identified as Classes 2–5 (Photos 4, 5, 6, and 7). The

[5] U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

western and northeastern portions of the project contained the highest concentration of burrows, likely due suitable vegetation communities, further distance from human disturbances and impacts, and potential connectivity to larger tracts of undisturbed land. These areas were identified as habitat currently suitable for desert tortoise occupation (see Figure 4).

Other Special Status Species

Seventy-five (75) burrows characteristic of other species larger than ground squirrels were documented on the site. Of these, 10 were identified as active desert kit fox dens, 22 were desert kit fox dig sites, 7 were American badger dens (1 active and 6 inactive), and 13 were classified as burrowing owl burrows (10 active, 3 inactive). The remaining 30 were classified as unknown (Figure 6). The unknown burrows were clearly non-tortoise, but did not have any distinctive signs to assist in determining the species responsible for excavation. Observation of these burrows allowed confirmation of three special status species within the project site: desert kit fox, burrowing owl, and American badger. These species were not observed directly due to the timing of the survey. Desert kit fox and American badger are nocturnal and retreat into their dens during the day. However, several dens had relatively fresh scat or signs of recent excavation, which confirmed that these species are present (Photo 8). Loggerhead shrikes were observed on three separate occasions.

Ten burrowing owl burrows were determined to be active (currently occupied) due to the presence of fresh whitewash and pellets (Photo 9). Burrowing owls are most easily observed during dawn and dusk and often spend much of the time below ground during the middle of the day, during high wind events, and during the incubation period of the nesting season. The survey times did not coincide with peak burrowing owl activity and high winds occurred on several survey days.

Nesting Birds and Incidental Wildlife

Eleven bird nests were found during the survey, seven of which were active (Figure 7). Of the active nests, six were common raven (*Corvus corax*) nests (Photo 10) and one was a red-tailed hawk (*Buteo jamaicensis*) nest. All of the ravens on nests appeared to be incubating eggs or brooding young at the time of the survey. The red-tailed hawk nest had at least two chicks, which were estimated to be approximately 1–2 weeks old. Both adults were present and were observed soaring above the nest during the survey. Overall, 61 species of wildlife were identified within the project site (Appendix C).

Discussion

During the survey no live tortoises were found, although one tortoise burrow in good condition was observed along with scat. Other special status species, burrowing owl, desert kit fox, American badger, and loggerhead shrike were confirmed to be present at the project site.

Conditions during the survey were good for detecting desert tortoise, with appropriate temperatures and conditions (see Table 1). Based on the 5.88 inches (149 mm) of rainfall recorded in Victorville from October 2018 through March 2019, desert tortoise would have been highly likely to be visible above ground. USFWS estimates that in years with rainfall exceeding 1.5 inches (40 mm), the probability of desert tortoise being visible is approximately 85%, and the probability of detecting a tortoise if it is visible is approximately 63%.[6] Based on the 2017 USFWS survey protocol, desert tortoise would be considered present at the site based on observations of sign, but no evidence of tortoise activity within recent months was detected during the survey as would typically be expected. The estimate population

[6] U.S. Fish and Wildlife Service, 2017.

size of tortoise at the site could not be calculated according to USFWS recommendations because the number of live tortoise observed was zero.

The project site consisted of the appropriate vegetation composition, soils, and topography to support desert tortoises, and was located within the species' geographic range. While the western and northeastern portion of the site contain suitable habitat, the site had little indication of recent tortoise use.

One burrow, in the northeastern portion of the project site, had tortoise sign that was potentially less than one year old (see Figure 5). However, based on the lack of live tortoises or carcasses observed, and degraded condition of nearly all burrows, few or no tortoises may be present. Nearly all of the tortoise burrows found were collapsed and showed no sign of recent activity. There were only two observations of tortoise scat over a project area of almost 1,200 acres. Additionally, no other tortoise sign was observed on-site such as carcasses, pallets, tracks, drinking depressions, courtship rings, or signs of ephemeral plant herbivory.

Threats affecting desert tortoise at the time of federal listing (1990) remain major threats today. Generally, historic studies and anecdotal evidence suggested notable declines in this species coinciding with expansion of human-induced impacts on large contiguous tracts of undisturbed desert land. More recently, range-wide monitoring studies have been adopted in order to gain a better understanding of densities across large geographic areas, population trends, and regional variability. Trends from 2004 through 2014 show a decline in most parts of the range, including the Western Mojave Recovery Unit where the project is located.[7] Desert tortoises' long lifespans and slow reproductive rates limit their resilience in the face of multiple threats and ability to recover from historic population declines.

Neighboring communities near the project location have seen population growth far exceeding the national average, with the cities of Adelanto and Victorville gaining an estimated 25,549 and 81,797 residents respectively since 1990.[8] The major industries in these locations also play a significant role in land use conversion from open desert to developed. The top employers in these communities include the Southern California Logistics Airport, a college, hospitals, federal correctional facilities, and retailers, all of which require large parcels of land relative to other forms of development. Three major highways (Highway 18/Palmdale Road, U.S. Highway 395, and Interstate 15) also pass near the project location reducing connectivity and exacerbating fragmentation of desert habitat.

Evidence of anthropogenic disturbance is present throughout the project site (Photo 11). Both scat and bones of sheep were observed, suggesting some grazing had occurred in the project area. Other evidence of disturbance includes trash from illegal dumping, tire tracks found away from roads, and abundant bullet casings. During the survey, the biologists observed several trucks, dirt bikes, and all-terrain vehicles being driven off-road within or near the project site. Off-road vehicle use can alter the native vegetation and soil composition leading to a shift in perennial plant cover and annual food plant potential. The biologists also saw and heard firearms being used near the project site on at least five separate occasions. A significant portion of tortoise deaths have historically been attributed to firearms.[9]

Several known predators of desert tortoise were observed during the survey, including feral dogs. Free-roaming dogs are known to injure or kill native wildlife, including desert tortoise, desert kit fox, and

[7] Allison, Linda J., Ann M. McLuckie. 2018. Population Trends in Mojave Desert tortoises (*Gopherus agassizii*). *Herpoetological Conservation and Biology*. 13(2):433-452.
[8] U.S. Census Bureau. 2019. Community Facts. Online. Retrieved from http://factfinder.census.gov/
[9] Berry, Kristin H. 1986. Incidence of Gunshot Deaths in Desert Tortoise Populations in California. *Wildlife Society Bulletin*. 14:127-132.

small mammals, and are considered by USFWS in the evaluation of habitat quality.[10,11] Ravens are another predator, primarily of juvenile desert tortoise, which have benefited from human development. Ravens were the most commonly encountered avian species onsite, with six active nests documented within or near the project site. Expansion of the human-built environment has led to a dramatic increase in the raven population in the Mojave desert in the last 50 years, which has subsequently led to a significant decline in the desert tortoise population.[12] The project site contains numerous suitable nesting structures for ravens in the form of Joshua trees and electrical transmission towers and poles. Proximity to residences and widespread trash dumping may also provide resources for a local large raven population. The cumulative effects of these disturbances and habitat conditions have likely negatively impacted desert tortoise populations on and near the project site.

Please feel free to contact me at PRoberts@swca.com or (626) 240-0587 ext. 6616 if you have any questions regarding either the results of the survey or any information presented within this report.

Sincerely,



Pauline K. Roberts, Ph.D.
Senior Natural Resources Project Manager

[10] Young, Julie K., Kirk A. Olson, Richard P. Reading, Sukh Amgalanbaatar, Joel Berger. 2011. Is Wildlife Going to the Dogs? Impacts of Feral and Free-roaming Dogs on Wildlife Populations. *BioScience* 61(2): 125-132.
[11] U.S. Fish and Wildlife Service, 2017.
[12] U.S. Fish and Wildlife Service. 2008. *Environmental Assessment to Implement a Desert Tortoise Recovery Plan Task: Reduce Common Raven Predation on the Desert Tortoise*. Ventura, California.

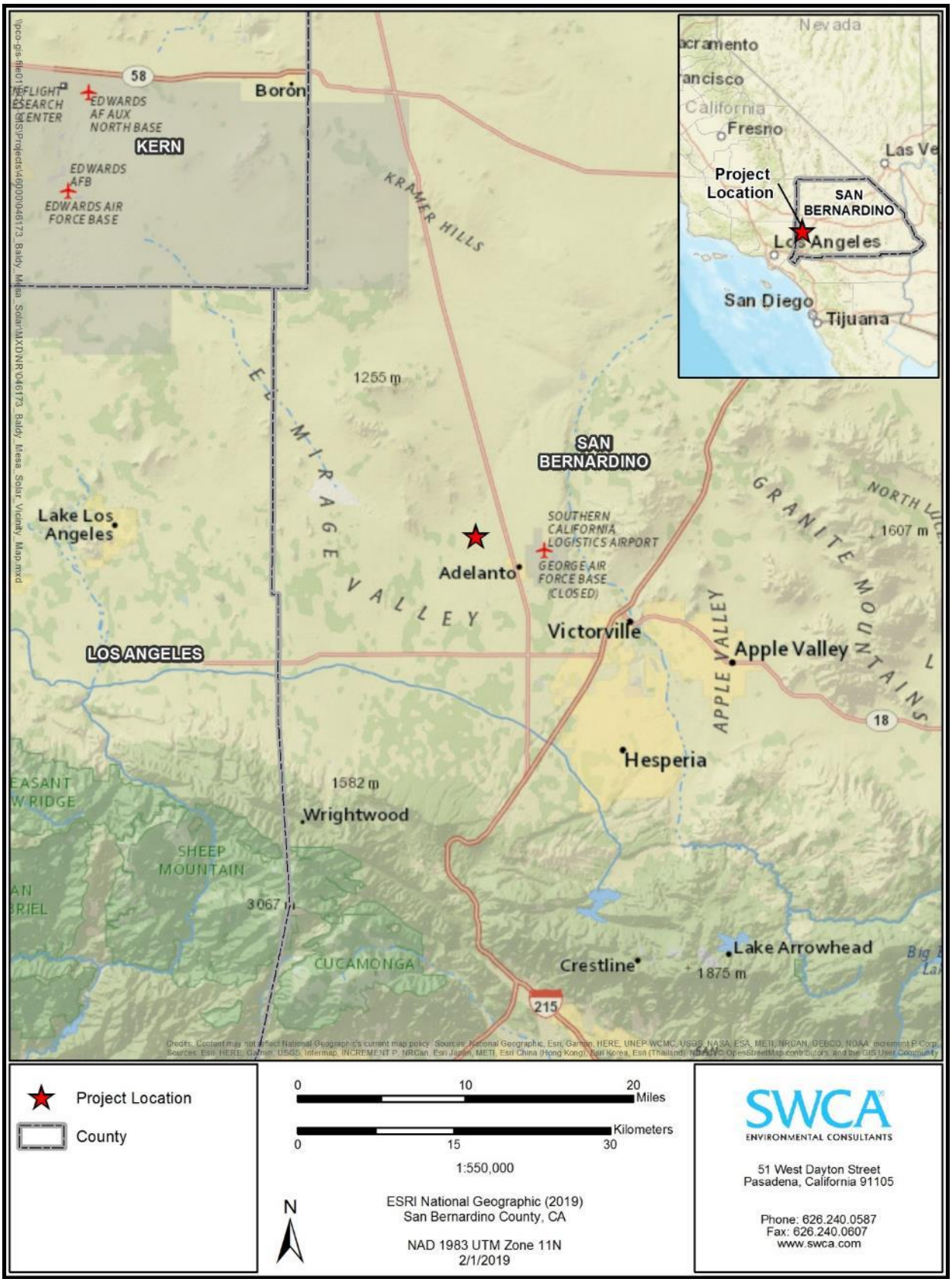


Figure 1. Regional vicinity map.

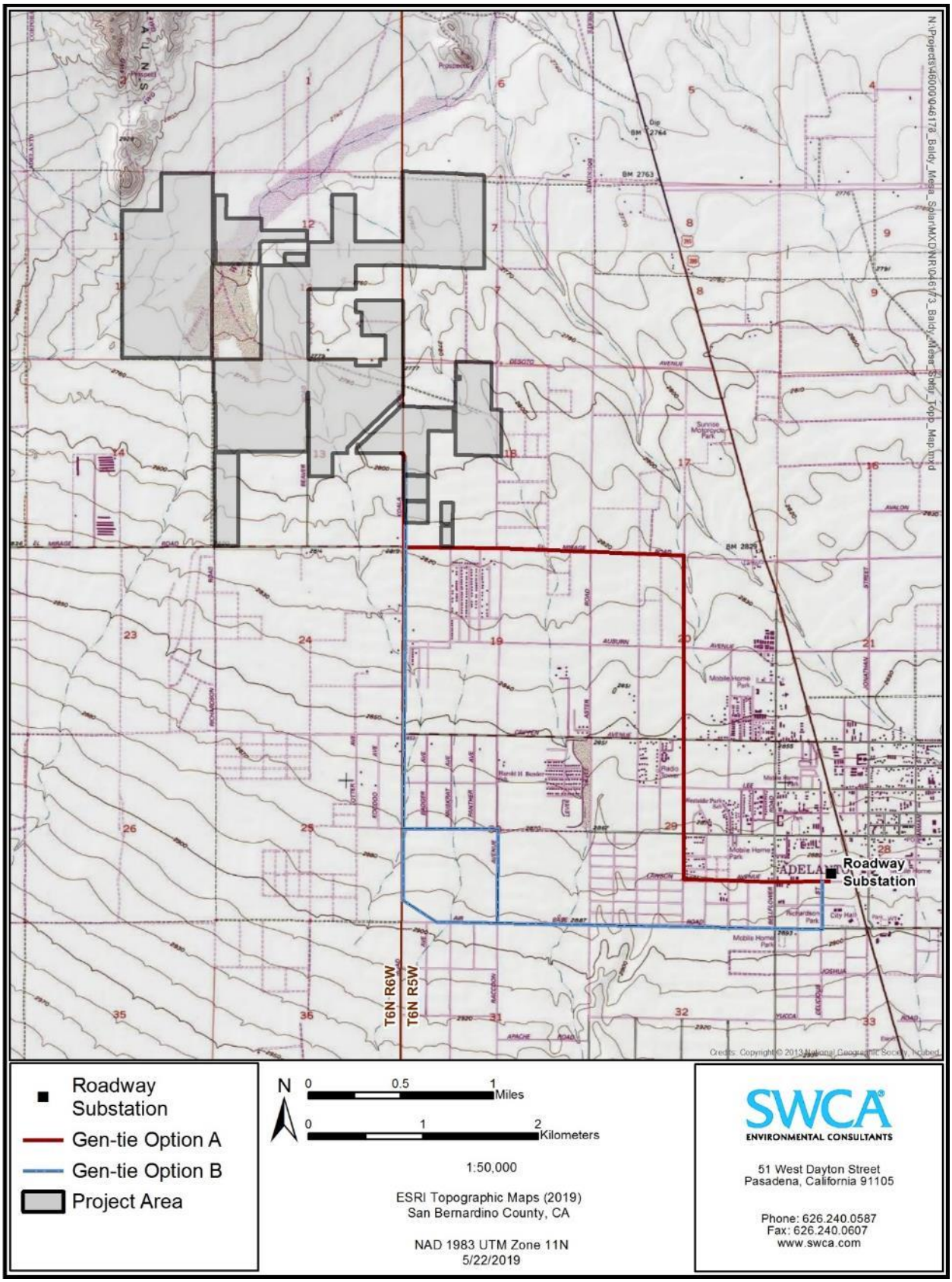


Figure 2. Project location with U.S. Geographical Survey topographic quadrangle background.

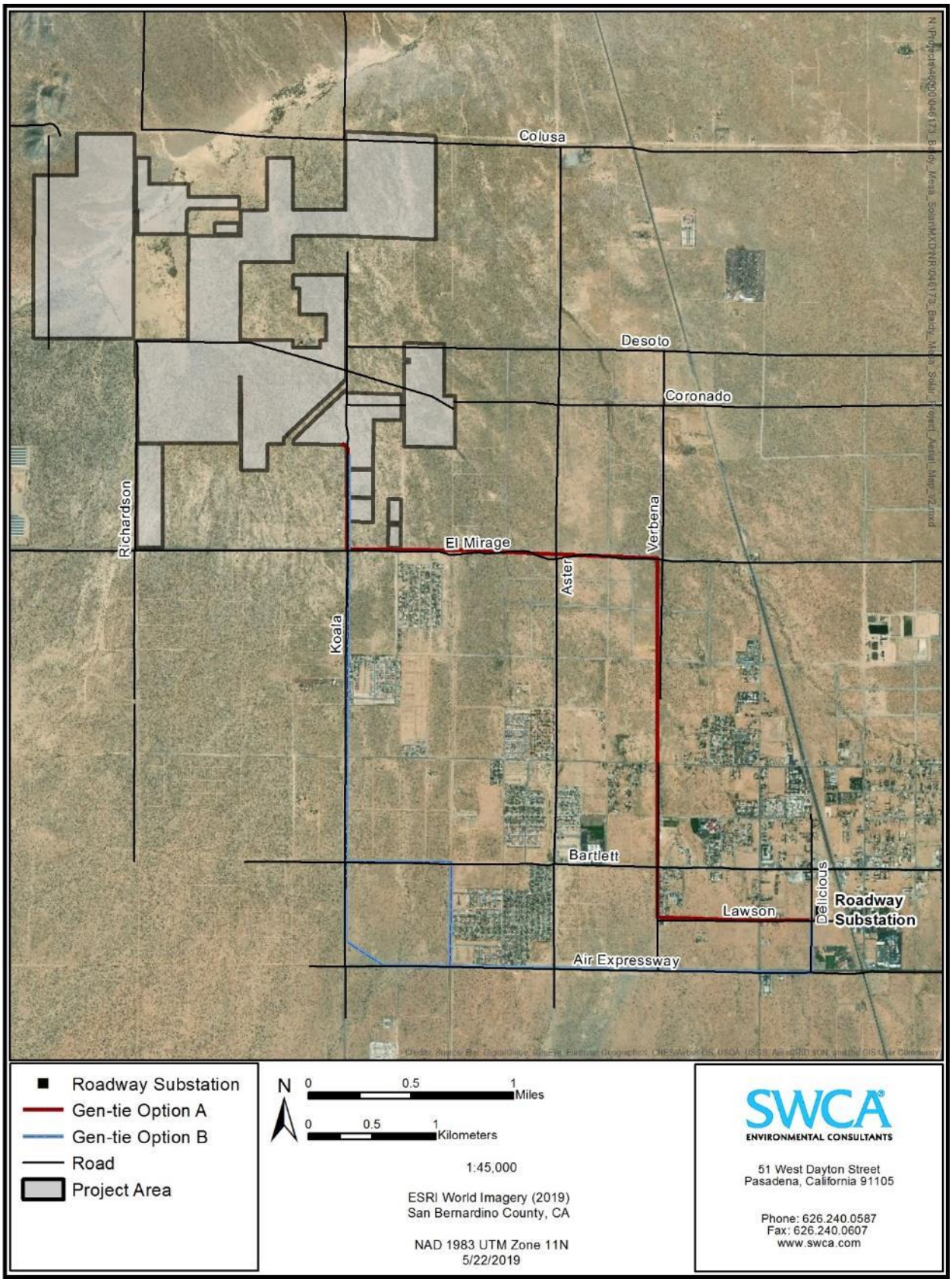


Figure 3. Project location with aerial background.

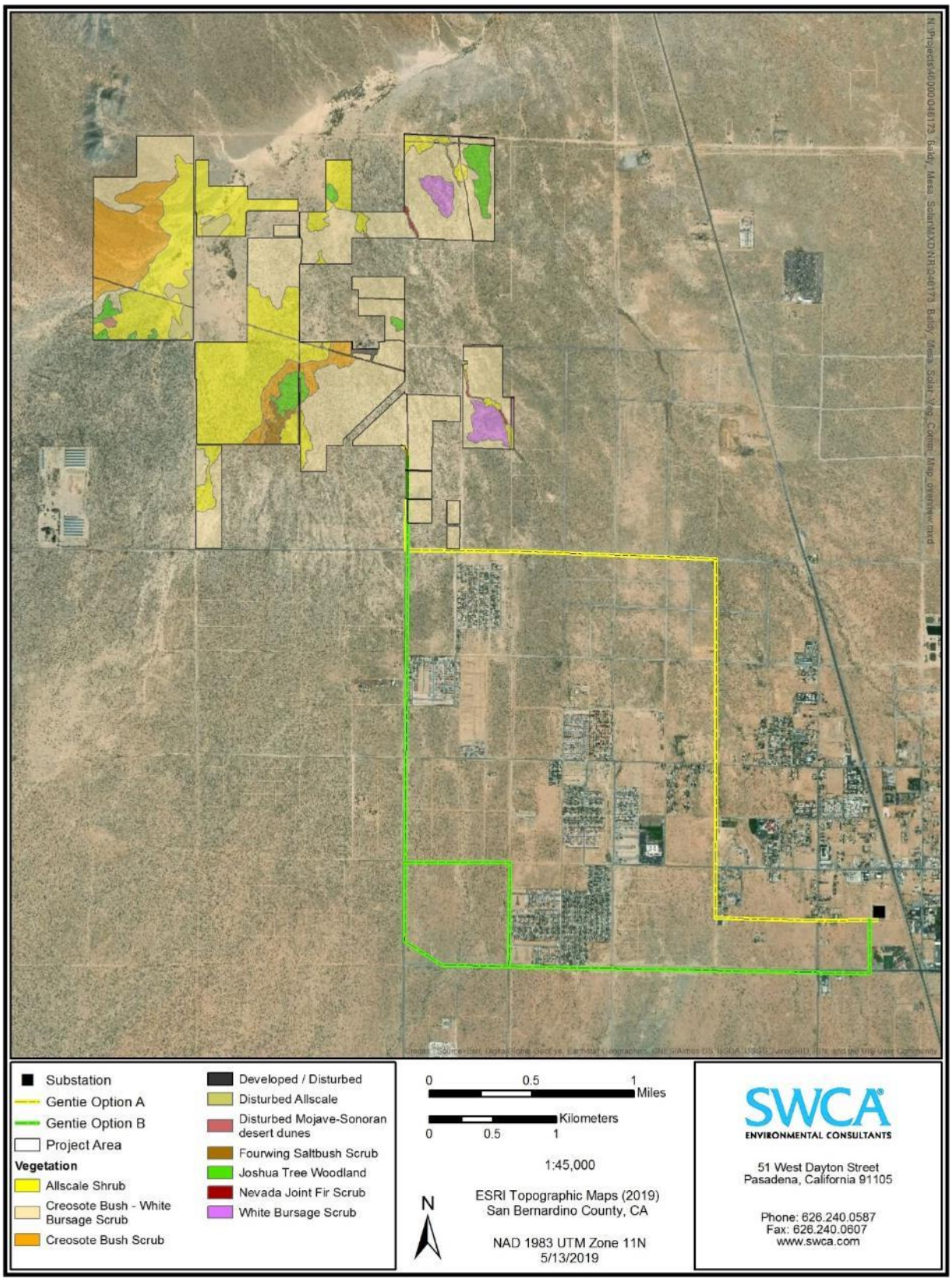


Figure 4. Vegetation communities at the project site.

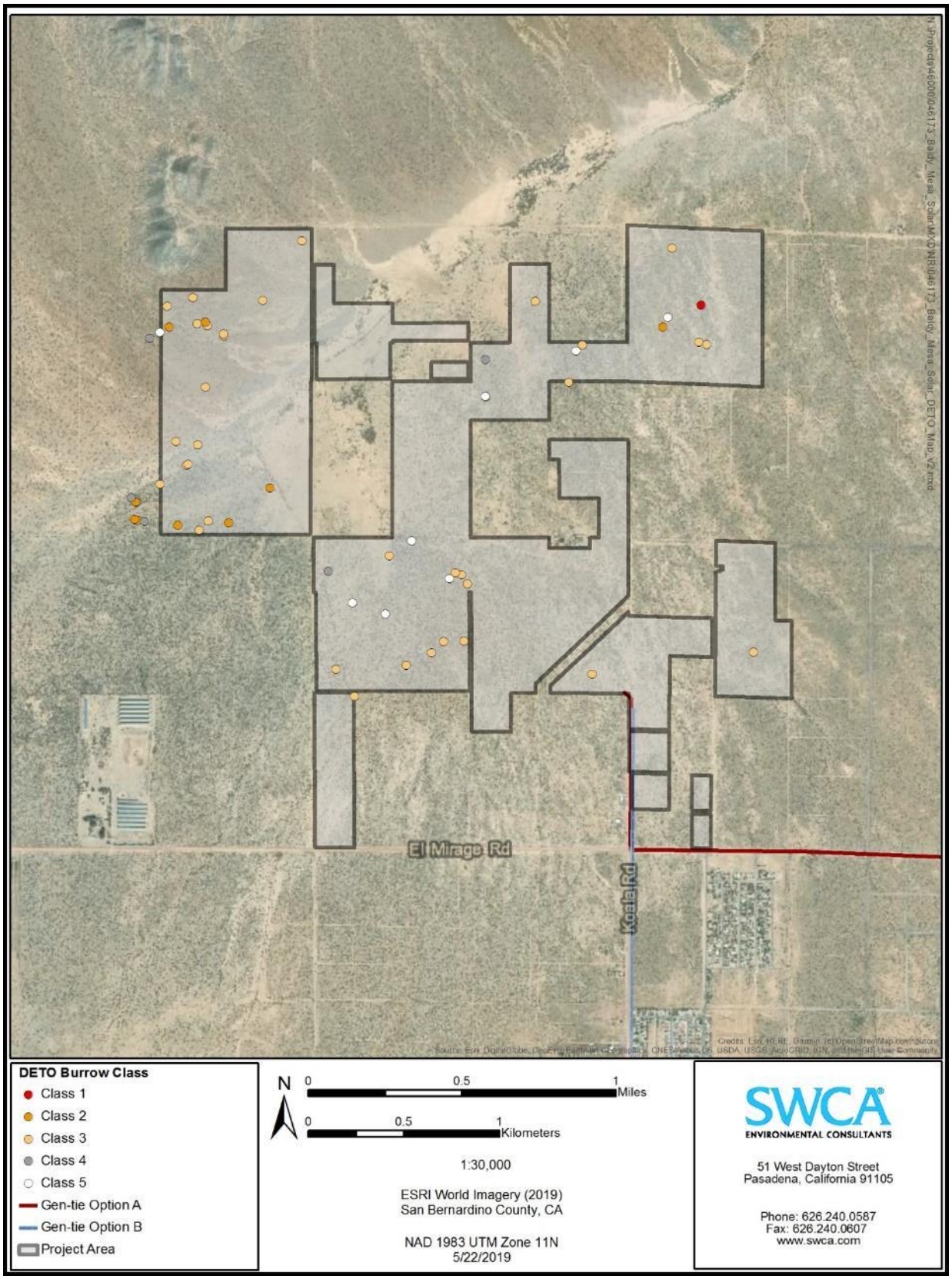


Figure 5. Locations of all desert tortoise (DETO) burrows and associated classifications.

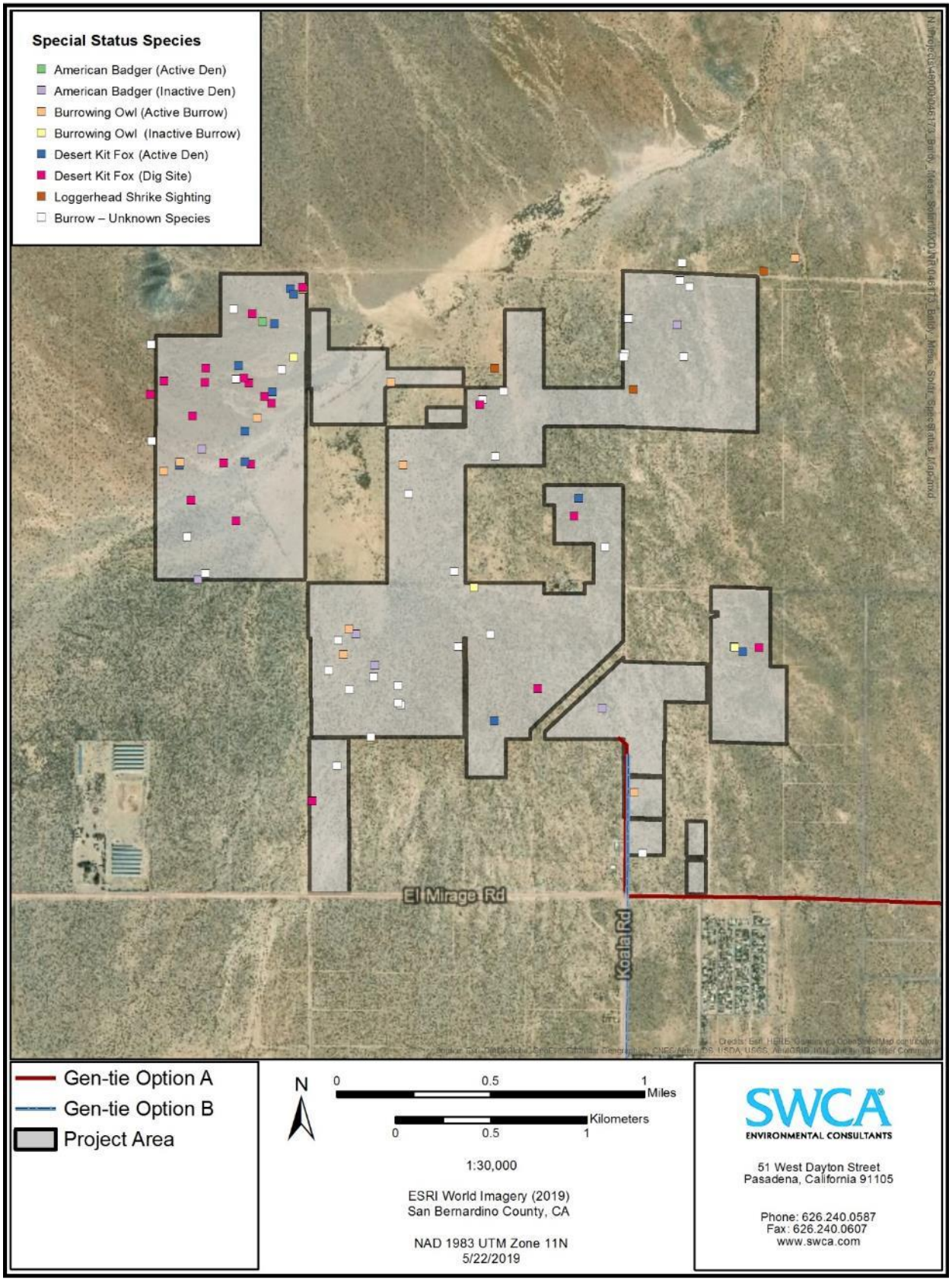


Figure 6. Location of special status species sightings and signs.

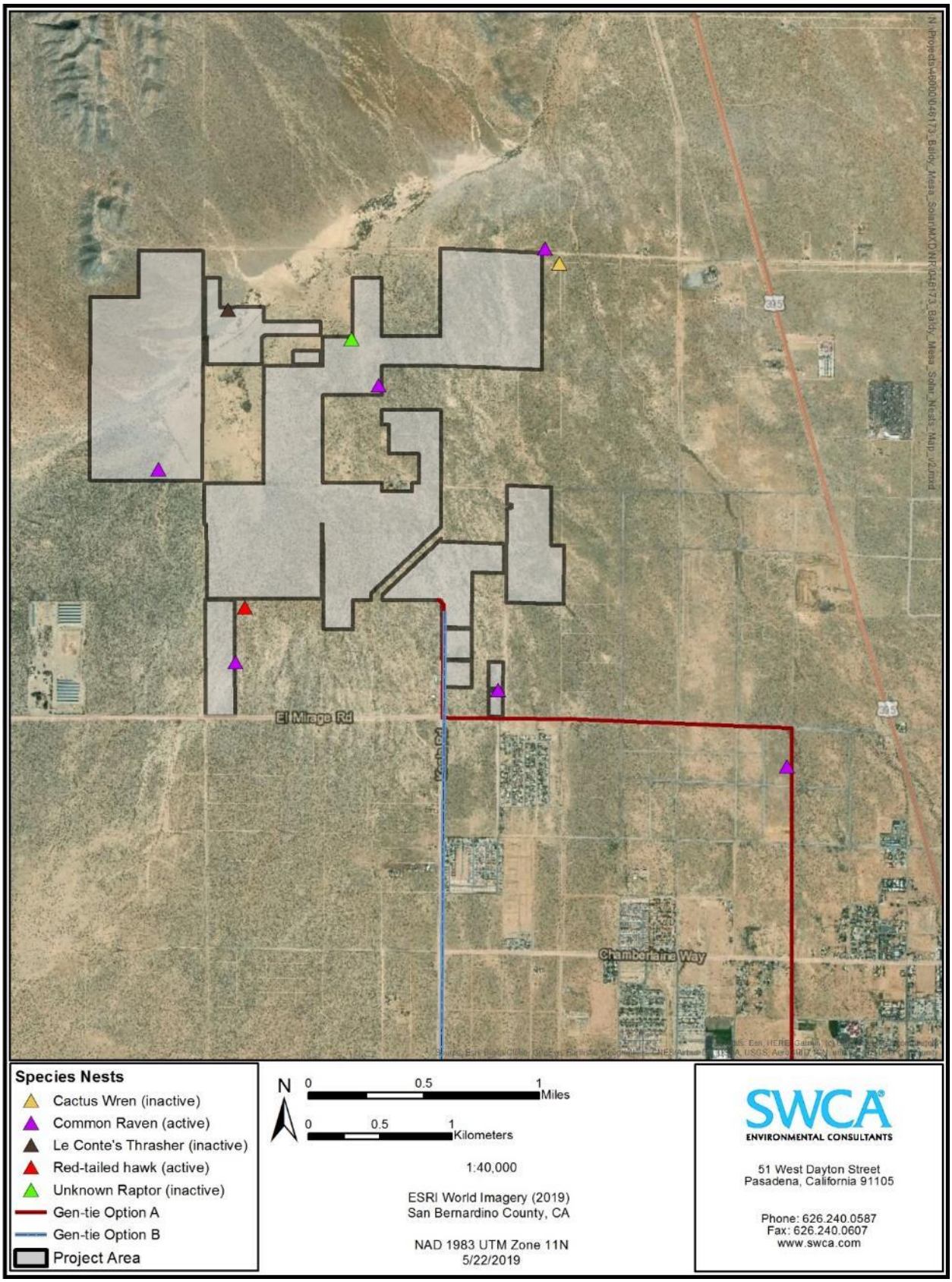


Figure 7. Locations of all active and inactive bird nests.



Photo 1. Class 1 desert tortoise burrow, see text for details. Photographed on April 25, 2019.



Photo 2. A recent (less than one year old) desert tortoise scat after it had been broken apart. Photographed on April 11, 2019.



Photo 3. An intact, old (greater than one year old) desert tortoise scat. Photographed on April 11, 2019.



Photo 4. A Class 2 desert tortoise burrow. Photographed on April 9, 2019.



Photo 5: A Class 3 desert tortoise burrow. Photographed on April 10, 2019.



Photo 6. A Class 4 desert tortoise burrow. Photographed on April 10, 2019.



Photo 7. A fully collapsed Class 5 (possibly desert tortoise) burrow. Photographed on April 24, 2019.



Photo 8. A desert kit fox den with scat near the entrance. Photographed on April 9, 2019.



Photo 9. A burrowing owl burrow with recent whitewash and owl pellets. Photographed on April 8, 2019.



Photo 10. An active common raven nest in a Joshua tree (*Yucca brevifolia*).



Photo 11. Example of trash from illegal dumping in the project site. A desert horned lizard (*Phrynosoma platyrhinos*) can be seen in the tire. Photographed on April 25, 2019.

Appendix A

Resumes

Appendix B

Desert Tortoise Data Sheets

Appendix C

Faunal Compendium

Scientific Name	Common Name
CLASS INSECTA	**INSECTS**
NYMPHALIDAE	**BRUSH-FOOTED BUTTERFLIES**
Vanessa cardui	Painted lady
SPHINGIDAE	**HAWK MOTHS AND SPHINX MOTHS**
Hyla lineata	white-lined sphinx moth
TENEBRIONIDAE	**DARKLING BEETLES**
Edrotes ventricosus	darkling beetle
Eleodes sp.	darkling beetle
MELOIDAE	**BLISTER BEETLES**
Lytta magister	desert blister beetle
CLASS REPTILIA	**REPTILES**
TESTUDINIDAE	**LAND TORTOISES**
*Gopherus agassizii**	desert tortoise
CROTOPHYTIDAE	**COLLARED AND LEOPARD LIZARDS**
Gambelia wislizenii	longnose leopard lizard
IGUANIDAE	**IGUANAS**
Dipsosaurus dorsalis	desert iguana
PHRYNOSOMATIDAE	**ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS**
Callisaurus draconoides	common zebratail lizard
Phrynosoma platyrhinos	desert horned lizard
Sceloporus uniformis	yellow-backed spiny lizard
Uta stansburiana	side-blotched lizard
XANTUSIIDAE	**NIGHT LIZARDS**
Xantusia vigilis	desert night lizard
TEIIDAE	**WHIPTAIL LIZARDS**
Aspidoscelis tigris tigris	Great Basin whiptail
COLUBRIDAE	**COLUBRID SNAKES**
Chionactis occipitalis occipitalis	Mojave shovelnose snake
Masticophis flagellum piceus	red coachwhip
Pituophis catenifer deserticola	Great Basin gopher snake
CROTALIDAE	**PIT VIPERS**
Crotalus scutulatus	Mojave rattlesnake
CLASS AVES	**BIRDS**
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**HAWKS, KITES, EAGLES**
Buteo jamaicensis	red-tailed hawk
FALCONIDAE	**FALCONS**
Falco mexicanus	prairie falcon

Scientific Name	Common Name
Falco sparverius†	American kestrel
SCOLOPACIDAE	**SANDPIPERS**
Numenius americanus	long-billed curlew
LARIDAE	**SKUAS, GULLS, TERNS, SKIMMERS**
Hydroprogne or *Thalasseus* sp.	Tern species
COLUMBIDAE	**PIGEONS & DOVES**
Columba livia†	rock pigeon
Zenaida macroura†	mourning dove
TYTONIDAE	**BARN OWLS**
*Tyto alba**	barn owl
STRIGIDAE	**TRUE OWLS**
*Athene cunicularia**	burrowing owl
TROCHILIDAE	**HUMMINGBIRDS**
Calypte costae	Costa's hummingbird
PICIDAE	**WOODPECKERS**
Picoides scalaris	ladder-backed woodpecker
TYRANNIDAE	**TYRANT FLYCATCHERS**
Myiarchus cinerascens	ash-throated flycatcher
Sayornis saya†	Say's phoebe
Tyrannus verticalis	western kingbird
ALAUDIDAE	**LARKS**
Eremophila alpestris	horned lark
HIRUNDINIDAE	**SWALLOWS**
Petrochelidon pyrrhonota	cliff swallow
CORVIDAE	**JAYS & CROWS**
Corvus corax	common raven
TROGLODYTIDAE	**WRENS**
Campylorhynchus brunneicapillus	cactus wren
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
Mimus polyglottos	northern mockingbird
Toxostoma lecontei	Le Conte's thrasher
LANIIDAE	**SHRIKES**
Lanius ludovicianus	loggerhead shrike
PARULIDAE	**WOOD WARBLERS**
Setophaga coronata	yellow-rumped warbler
ICTERIDAE	**BLACKBIRDS**
Euphagus cyanocephalus†	Brewer's blackbird
Sturnella neglecta	western meadowlark
CAPRIMULGIDAE	**NIGHThawks**
Chordeiles acutipennis	lesser nighthawk

Scientific Name	Common Name
EMBERIZIDAE	**EMBERIZIDS**
Amphispiza bilineata	black-throated sparrow
Amphispiza nevadensis	sagebrush sparrow
Passerculus sandwichensis	savannah sparrow
Pooecetes gramineus	vesper sparrow
Spizella passerina	chipping sparrow
Zonotrichia leucophrys	white-crowned sparrow
FRINGILLIDAE	**FINCHES**
Haemorhous mexicanus†	house finch
PASSERIDAE	**OLD WORLD SPARROWS**
Passer domesticus†	house sparrow
CLASS MAMMALIA	**MAMMALS**
LEPORIDAE	**HARES & RABBITS**
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail
SCIURIDAE	**SQUIRRELS**
Ammospermophilus leucurus	white-tailed antelope squirrel
Spermophilus beecheyi†	California ground squirrel
HETEROMYIDAE	**POCKET MICE & KANGAROO RATS**
Dipodomys deserti	desert kangaroo rat
CANIDAE	**WOLVES & FOXES**
Canis familiaris	domestic dog
*Canis latrans**	coyote
*Vulpes macrotis arsipus**	Desert kit fox
MUSTELIDAE	**WEASELS & RELATIVES**
*Taxidea taxus**	American badger
FELIDAE	**CATS**
Felis catus†	domestic cat

* Not directly observed, signs such as burrows and dens, pellets, whitewash, and scat were present

† Only observed along the proposed gen-tie routes

Appendix B BIOLOGICAL RESOURCES

B.5 MOJAVE FRINGE-TOED LIZARD POTENTIAL TO OCCUR TECHNICAL MEMORANDUM



SWCA ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

51 West Dayton Street
Pasadena, California 91105
Tel 626.240.0587 Fax 626.240.0607
www.swca.com

TECHNICAL MEMORANDUM

To: **Tanya Martinez, Theresa Carroll, and Dallas Pugh**
sPower Sustainable Power Group
5000 East Spring Street, Suite 130
Long Beach, CA 90815

From: **Pauline Roberts, Natural Resources Team Lead**

Date: June 20, 2019

Re: **Mojave Fringe-toed Lizard Potential to Occur at the Baldy Mesa Solar Project**

This memorandum assesses the potential for Mojave fringe-toed lizard (*Uma scoparia*) to occur at the Baldy Mesa Solar Project (project), located in the northwestern portion of the City of Adelanto, San Bernardino County, California. sPower proposes to develop the project as a utility-scale solar photovoltaic (PV) project sited on approximately 1,198 acres of private land (Figure 1). The Mojave fringe-toed lizard (MFTL) is listed as a Species of Special Concern by the California Department of Fish and Wildlife (CDFW). This memorandum presents information about the species' life history and range, describes habitat at the project site, and provides a brief assessment of the species' potential to occur.

Species Background

Habitat and Movements

Like all fringe-toed lizards, MFTL is restricted to habitats with loose windblown sand and the immediate surroundings. Dunes, dry washes, hillsides, dry lake edges, and sandy hummocks may contain suitable wind-blown sands.[1] The MFTL has several physical adaptations for loose sand include a fringe of scales on the toes that provide traction, double eyelids, and smooth granular scales. When threatened they usually take shelter under the sand, and can move under the surface in a swimming motion.[2] They are most active during the warmer seasons, and typically hibernate between November and February.[3,4] When not active they take refuge in burrows or under the sand.

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[1] Bureau of Land Management. 2015. Desert Renewable Energy Conservation Plan Land Use Plan Amendment and Final Environmental Impact Statement, Appendix Q, Baseline Biology Report. U.S. Bureau of Land Management in partnership with U.S. Fish and Wildlife Service, California Energy Commission, California Department of Fish and Wildlife.

[2] California Wildlife Habitat Relationships System Staff. 2000. Mohave Fringe-toed Lizard Life History Account. California Department of Fish and Wildlife, California Interagency Wildlife Task Group. Available at: https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed: June 18, 2019.

[3] U.S. Fish and Wildlife Service. 2011. Notice of 12-month petition finding: Endangered and Threatened Wildlife and Plants: 12-Month Finding on a Petition to List the Amargosa River Population of the Mojave Fringe-Toed Lizard as an Endangered or Threatened Distinct Population Segment. *Federal Register* 76(192): 61321-61330.

[4] Norris, K.S. 1958. The Evolution and Systematics of the Iguanid Genus Uma and Its Relation to the Evolution of Other North American desert reptiles. *Amer. Mus. Nat. Hist. Bull.* 114(3):251–317.

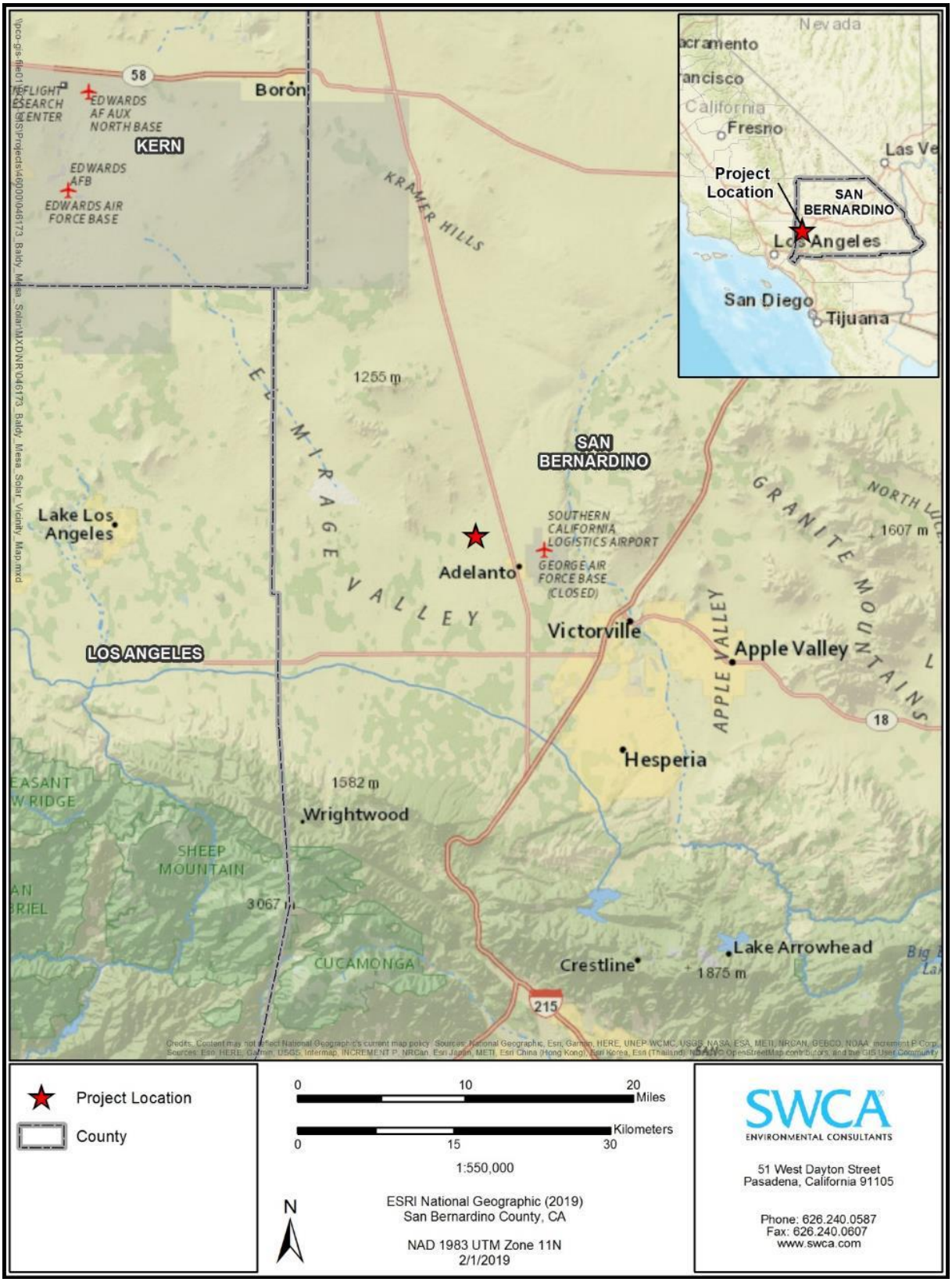

Figure 1. Regional vicinity map.

Dispersal

Dispersal of MFTL is poorly understood, but the species is generally considered to be restricted to areas where windblown sand accumulates.[5,6] Captures of individuals more than 150 feet from this environment are unknown.[7]

Historic and Current Range

As suggested by its name, the range of the MFTL encompasses much of the Mojave Desert, and does not overlap with that of other fringe-toed lizards. Historically, the species range spanned parts of northern Los Angeles County, San Bernardino County, southern Inyo County, and eastern Riverside County (Figure 2).[8,9] The dune complexes where the species found are associated with three main river complexes: the Amargosa, Mojave, and Colorado Rivers (Figures 3 and 4). Murphy et al. documented the extirpation of populations at four sites in the western part of the range: El Mirage and Harper Dry Lakes in western San Bernardino County, and Lovejoy Butte and Piute Buttes in northeastern Los Angeles County.[10] Lovejoy Butte and Piute Buttes are located adjacent to the community of Lake Los Angeles, which is visible in relation to the project in Figure 1. Those four sites are the 4 westernmost records shown in Figure 4.

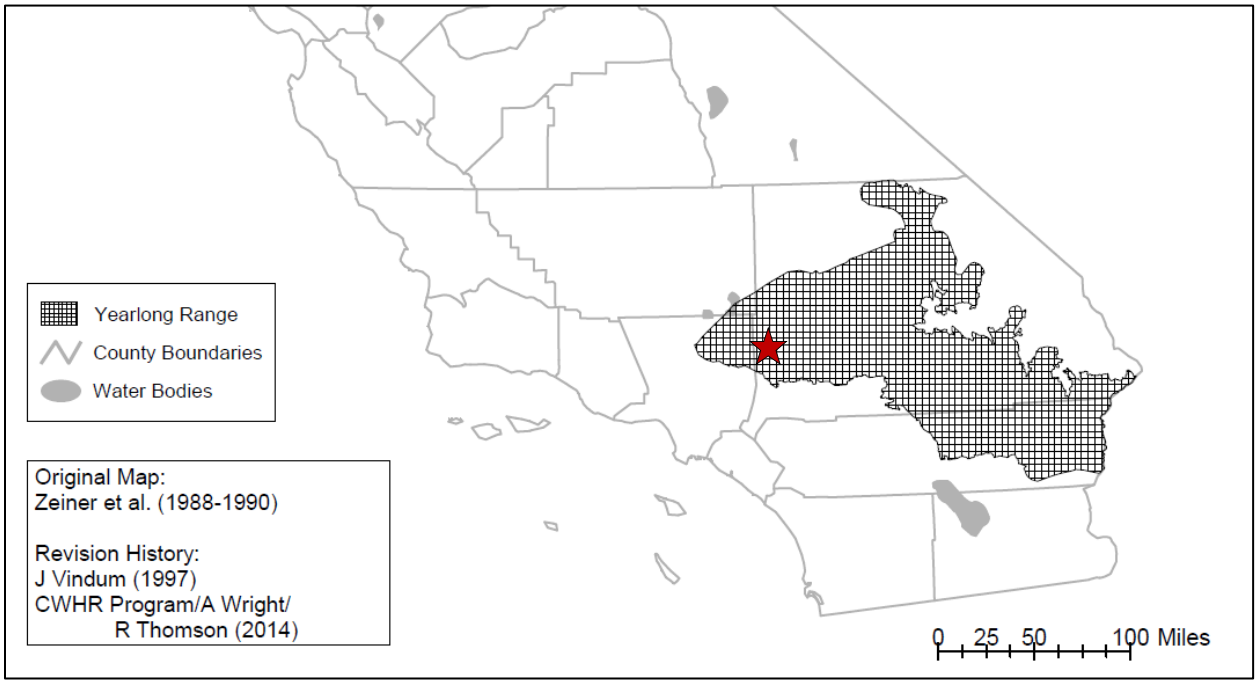

Figure 2. Mojave Fringe-toed Lizard range map (from CDFW, 2014). The red star indicates the approximate project location.

[5] Norris, 1958.

[6] U.S. Fish and Wildlife Service, 2011.

[7] U.S. Fish and Wildlife Service, 2011.

[8] California Department of Fish and Wildlife. 2014. Mojave Fringe-toed Lizard Range Map. California Department of Fish and Wildlife, California Interagency Wildlife Task Group. Available at: https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed: June 18, 2019.

[9] Bureau of Land Management, 2015.

[10] Murphy, R.W., T.L. Trepanier, D.J., Morafka. 2006. Conservation genetics, evolution and distinct population segments of the Mojave fringe-toed lizard, *Uma scoparia. Journal of Arid Environments*: 67(2006): 226-247.

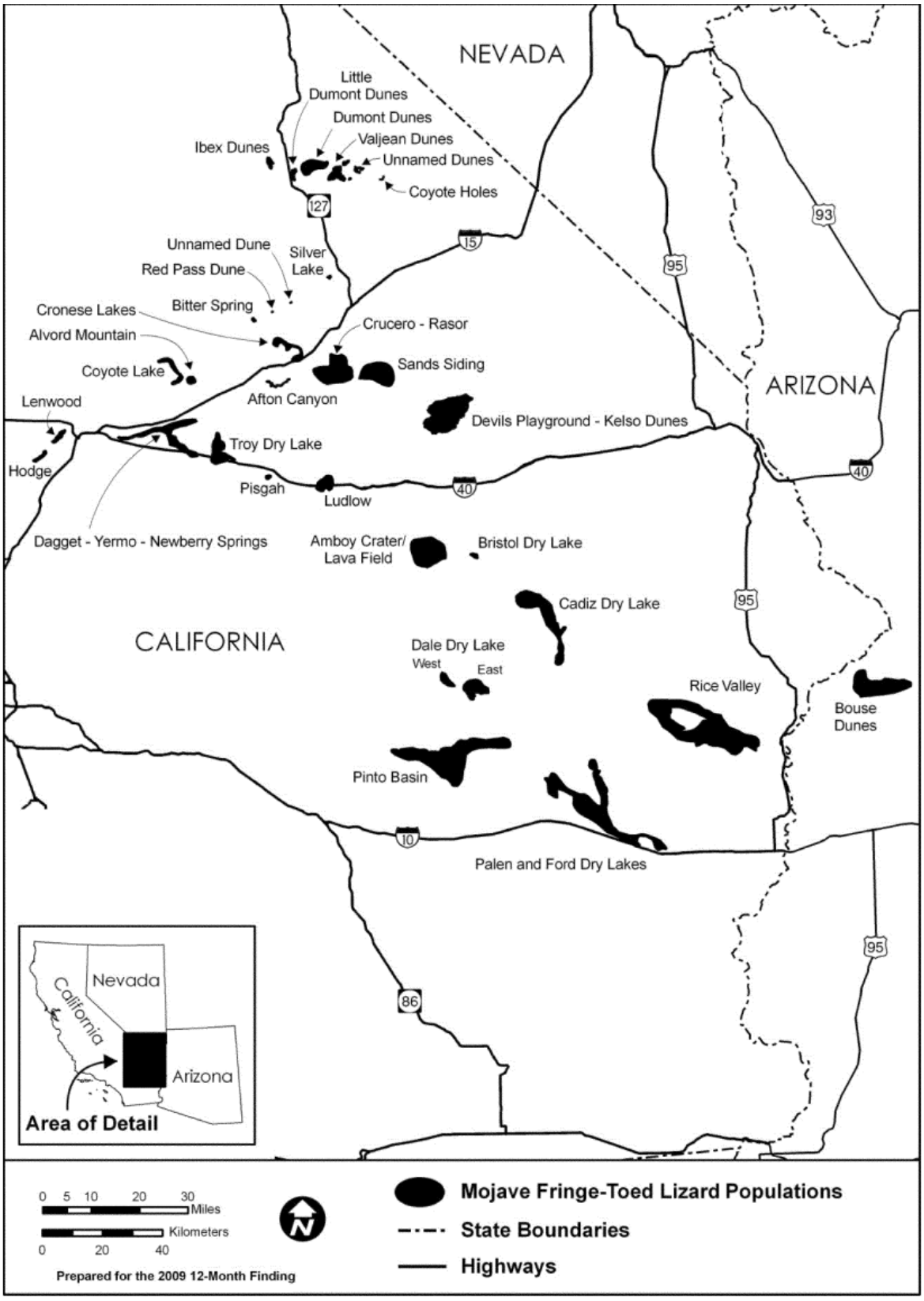

Figure 3. Mojave Fringe-toed Lizard populations (from U.S. Fish and Wildlife Service, 2011). The project is located just off the left edge of the map.

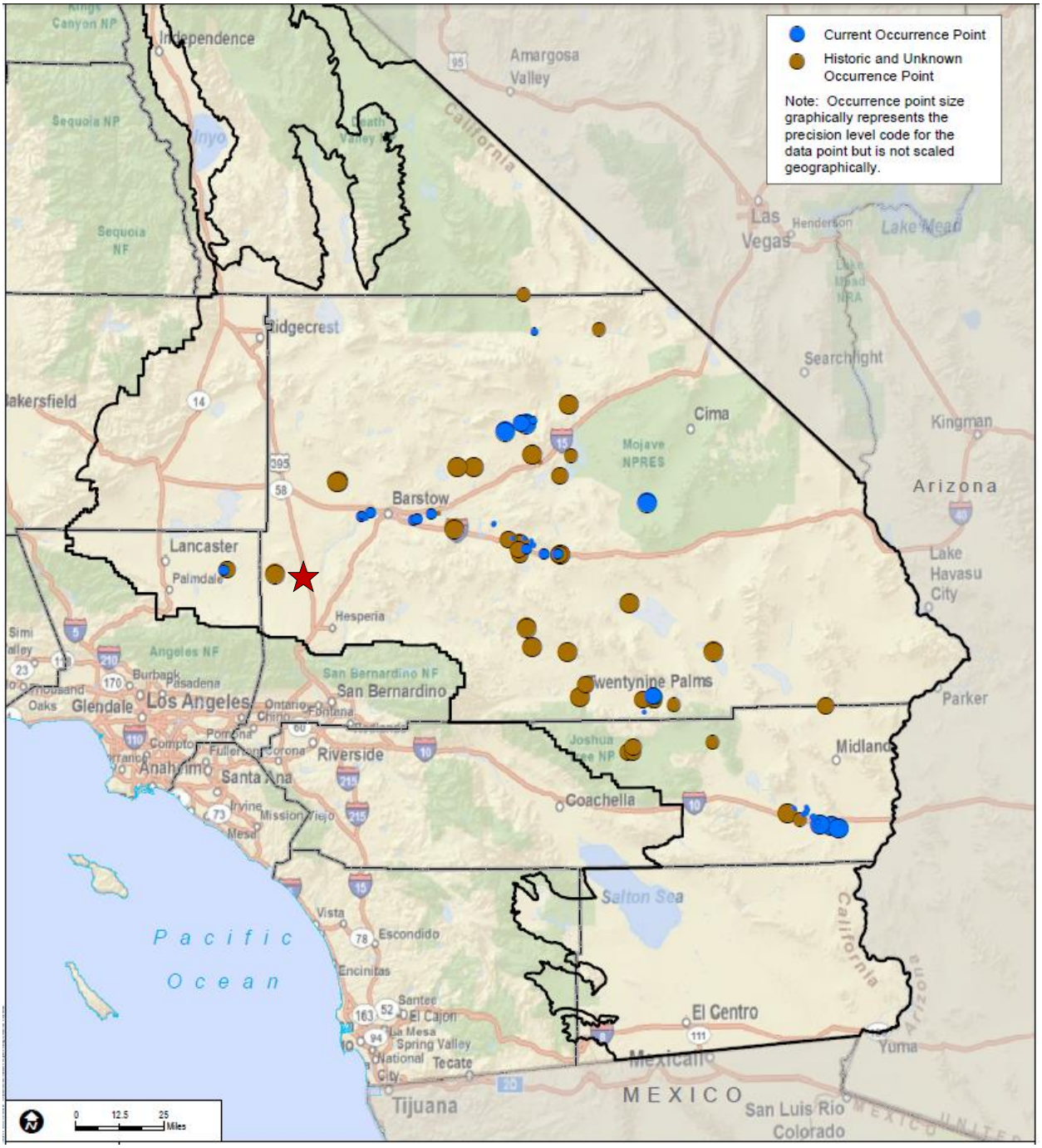

Figure 4. Mojave fringe-toed lizard occurrences (from Bureau of Land Management, 2015). Note that "Current" in the map legend was defined as observations between 1990 and 2011. The red star indicates the approximate project location.

Threats

Natural predators of MFTL include larger lizards and snakes, greater roadrunner, burrowing owl, loggerhead shrike, hawks, American badger, and coyote.[11] Off-highway vehicle (OHV) activity may kill lizards directly and degrade the dune habitat; designated OHV recreation areas overlaps with three significant historic populations of MFTL: El Mirage Dry Lake, Dumont Dunes, and Rasor Road (labeled as Dumont Dunes and Crucero-Rasor on Figure 3). Habitat loss and disruption of natural wind-blown sand movement may also be a threat. Population declines for the closely related Coachella fringe-toed lizard (*U. inornata*), is primarily attributed to habitat loss due to urban development and by disruption of sand movement caused by associated roads and windbreaks.[12,13] Establishment of non-native plants and the loss of native perennial plants may affect the lizards' insect food sources, shelter, and dune dynamics in ways that are not well understood. In 2006 the northeastern-most populations were proposed for listing as a distinct population segment (DPS) under the federal Endangered Species Act, with disturbances from OHVs cited as the primary threat.[14] The species was not listed, on the grounds that the proposed Amargosa River population did not meet all the necessary criteria of a DPS.[15]

Baldy Mesa Solar Project Site

Habitat at the Project

Potential habitat for MFTL at the project includes the dune area mapped in the western corner of the project (Figures 5 and 6). Here, a small wind-blown sand dune is present in or adjacent to Mojave-Sonoran Desert Dunes, Joshua Tree Woodland, and Allscale Scrub (see Figure 6). Russian thistle (*Salsola tragus*), a non-native weed, is common on the dune (Figure 7). At its highest, the dune is elevated a few feet from the surrounding desert floor. The entire dune covers roughly 6 acres, approximately half of which is within the project site.

Soils in this part of the project and westward include sandy soils at 0 to 2 percent slopes. The dune is situated along the headwaters of the Fremont Wash, an ephemeral watercourse that flows northeast into the Mojave River. Approximately 4 miles west of the project, El Mirage Dry Lake also flows into channels that drain into the Fremont Wash. As mentioned above, El Mirage Dry Lake historically supported MFTL, but the species has been extirpated from the site. There are no other local records of MFTL within 20 miles of the project.

Field Surveys

SWCA Environmental Consultants (SWCA) biologists conducted a reconnaissance survey of the project in January 2019, a protocol survey for desert tortoise in May 2019, and a survey for rare plants in May-June 2019. Focused field surveys specifically for MFTL were not conducted. During all surveys, OHV trails were observed crossing the dune and other areas of the project.

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[11] Jones, L.C., and R.E. Lovich. 2009. *Lizards of the American Southwest.* Tucson, Arizona.

[12] Weaver, D.C. 1981. *Aeolian Sand Transport and Deposit Characteristics at Ten Sites in Coachella Valley, California. Part II. in The Effect of Blowsand Reduction on the Abundance of the Fringe-Toed Lizard (*Uma inornata*) in the Coachella Valley, California*. Prepared for the U.S. Army Corps of Engineers, Los Angeles District.

[13] Beatley, T. 1994. *Habitat Conservation Planning: Endangered Species and Urban Growth*. Austin, Texas: University of Texas Press.

[14] Center for Biological Diversity. 2006. *Petition to List the Amargosa River Distinct Population Segment of the Mojave Fringe-toed Lizard (*Uma scoparia*) as Threatened or Endangered under the U.S. Endangered Species Act.* Tucson, Arizona.

[15] U.S. Fish and Wildlife Service, 2011.

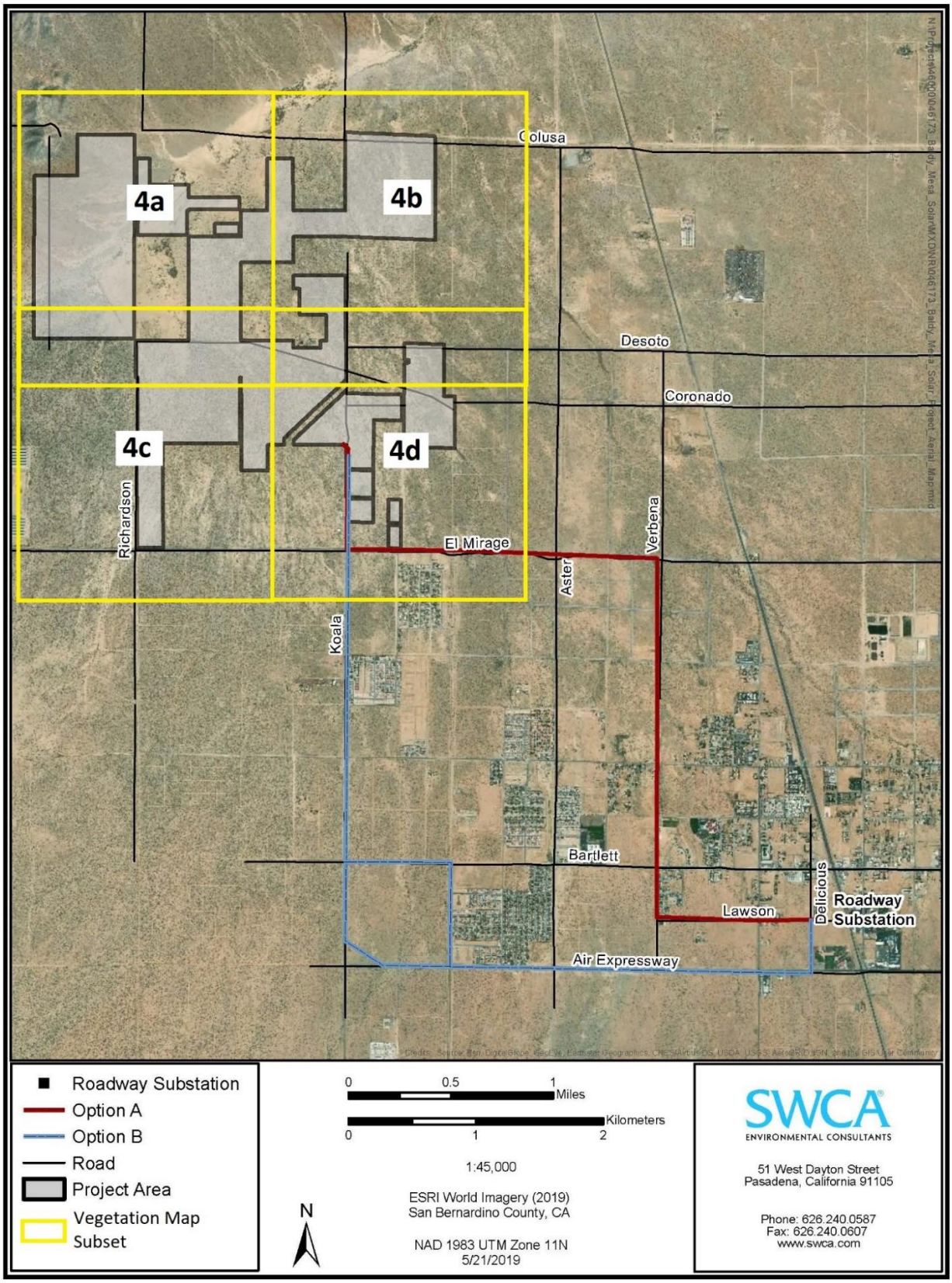

Figure 5. Project overview map. The dune habitat is located in quadrant 4a.

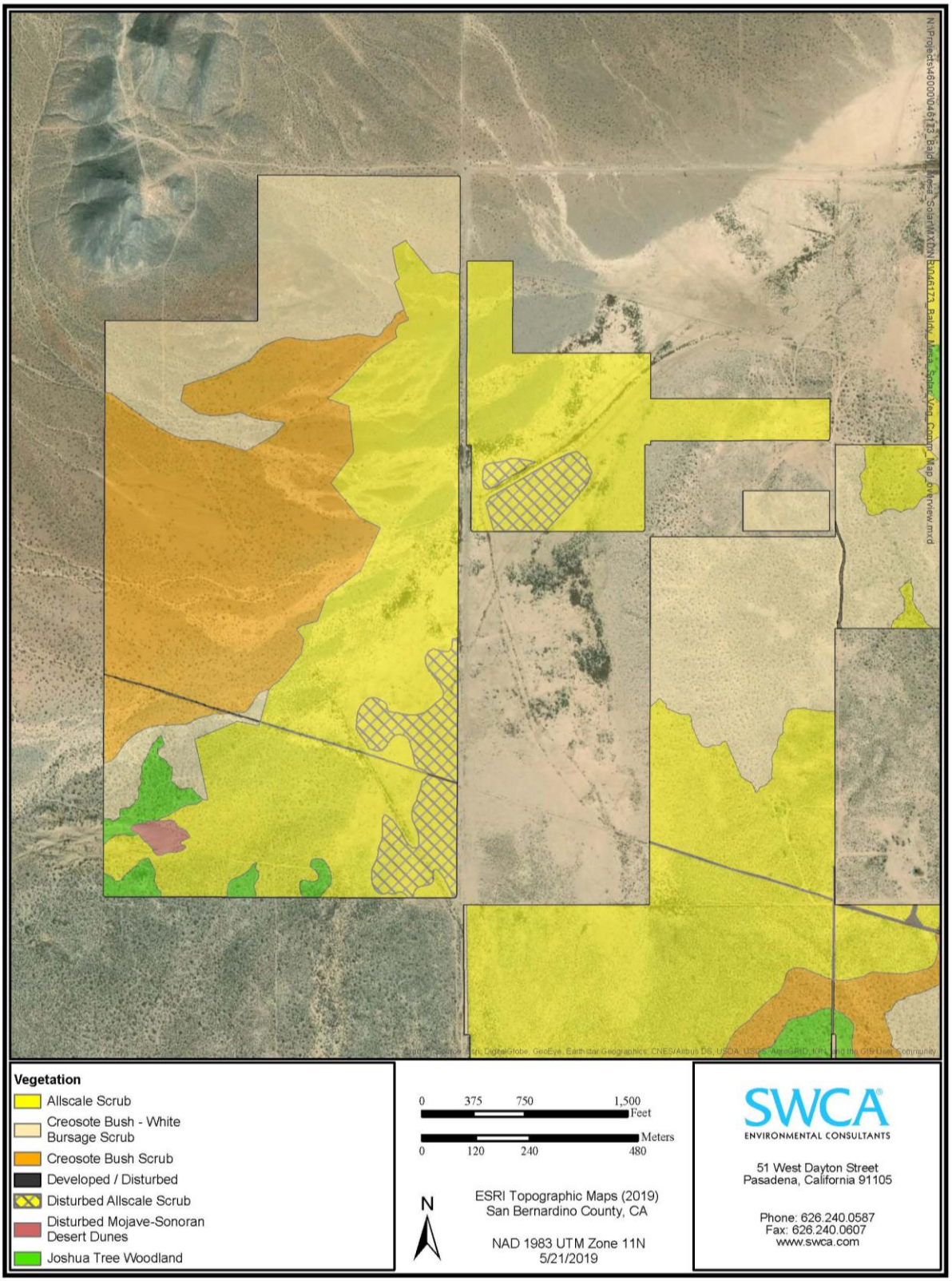

Figure 6. Vegetation community and land cover types in the northwest corner of the project (quadrant 4a on Figure 5).



Figure 7. Disturbed Mojave-Sonoran Desert Dunes at western edge of the project. View southward on May 2, 2019. The green vegetation is non-native Russian thistle (*Salsola tragus*).

Two of the biologists who conducted the desert tortoise survey, Justin Fowler and Par Singhaseni, are familiar with MFTL, having observed them in the wild and handled individuals at Kelso Dunes and Pisgah Crater. Both were alert to the potential presence of MFTL, and recorded all species of lizards as they were encountered. No MFTL were observed during the survey, although 8 other species of lizards were recorded:

- longnose leopard lizard (*Gambelia wislizenii*)
- desert iguana (*Dipsosaurus dorsalis*)
- common zebratail lizard (*Callisaurus draconoides*)
- desert horned lizard (*Phrynosoma platyrhinos*)
- yellow-backed spiny lizard (*Sceloporus uniformis*)
- side-blotched lizard (*Uta stansburiana*)
- desert night lizard (*Xantusia vigilis*)
- Great Basin whiptail (*Aspidoscelis tigris tigris*)

Potential to Occur at the Project

Based on the dune habitat at the project, and potential connectivity with a historic population at El Mirage Dry Lake, it is possible that MFTL historically occupied the dune habitat at the project. However, considering the small size of the potential habitat at the project, the extirpation of the El Mirage Dry Lake population and other populations in the western part of the species' range, disturbances from OHVs at the project, and absence of other nearby populations, it is extremely unlikely that MFTL is present.

Appendix B BIOLOGICAL RESOURCES

B.6 MOHAVE GROUND SQUIRREL REPORTS



Baldy Mesa Solar Project
Mohave Ground Squirrel Habitat Survey Letter of Findings

May 30, 2019

MOHAVE GROUND SQUIRREL HABITAT ASSESSMENT SURVEY REPORT
Sections 11–13 of Township 6 North, Range 6 West, and Sections 6, 7, 17-20, and 28-33 of Township 6 North, Range 5 West (USGS) Adelanto and Victorville NW 7.5-minute topographic quadrangles

Prepared By
ENVIRA
P.O. Box 2612, Ramona, California, USA 92065
Phone 619-885-0236
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Prepared For
SWCA Environmental Consultants
51 West Dayton Street
Pasadena, California 91105

EXECUTIVE SUMMARY

This report documents the findings of baseline Mohave ground squirrel (MGS; *Xerospermophilus mohavensis*) habitat assessment and phase one visual survey surveys for the Project (Figure 1). The intended use of this document is to disclose the potential for presence or absence of MGS within Project limits.

The proposed Solar Project will consist of a utility-scale solar photovoltaic (PV) energy generating facility located on approximately 1,197.61 acres in the City of Adelanto, in San Bernardino County, California. A generation tie-line (gen-tie) will interconnect with the power grid at the existing Southern California Edison (SCE) Roadway Substation. Electrical power generated by the Project will be delivered by an approximately 4.8-mile of gen-tie.

The Project is located in the northwestern portion of the City of Adelanto and adjacent to unincorporated San Bernardino County within the western Mojave Desert.

The main Project area is bounded by El Mirage Road on the south, Colusa Road on the north, extends 0.5 mile west of Richardson Road, and borders Raccoon Road on the east. The Project and gen-tie options are located in Sections 11–13 of Township 6 North, Range 6 West, and Sections 6, 7, 17-20, and 28-33 of Township 6 North, Range 5 West (San Bernardino Meridian) found on the U.S. Geological Survey (USGS) Adelanto and Victorville NW 7.5-minute topographic quadrangles.

Geographically, the Project is located between the southern, low elevation, hot Sonoran Desert and the northern, high elevation, relatively cool Great Basin. The western Mojave Desert includes more than 25,000 square miles within California and portions of Arizona, Nevada, and Utah. The Mojave Desert's western boundary is formed by the convergence of the Tehachapi and San Gabriel Mountains, and its southern boundary extends east of the San Bernardino Mountains to the Salton Sea, where it gradually transitions into the Sonoran Desert.

Much of the Mojave Desert consists of typical mountain and basin topography where basin-to-mountain transition zones support high levels of biodiversity and endemic species. Flatter portions of the desert floor are characterized by expansive playas, dry lakes and other ephemeral waters. These are interspersed with dunes (a geomorphology referred to as pan and dune complexes) that are covered with Joshua trees (*Yucca brevifolia*), saltbush (*Atriplex* spp.), and Great Basin sagebrush (*Artemisia tridentata*). Fine wind-blown sand from dry lakebeds and river channels can create hummocks and dunes that support unique species of insects, plants, and reptiles. Slopes and bajadas in the region are covered with creosote bush (*Larrea tridentata*), saltbush, bursage (*Ambrosia* spp.), and bladdersage (*Salazaria mexicana*). In years with sufficient rainfall, the desert floor vegetation communities will include an abundance of annual wildflowers.

INTRODUCTION

This report documents the findings of baseline Mohave ground squirrel (MGS; *Xerospermophilus mohavensis*) habitat assessment and phase one visual survey surveys for the Project (Figure 1). The intended use of this document is to disclose the potential for presence or absence of MGS within Project limits.

Project and Property Description

For the purposes of this report, the "study area" includes the Project's proposed ground disturbance footprint (Project Site) up to the property boundary (Figure 1).

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Background on Mohave Ground Squirrel

The Mojave ground squirrel-MGS (*Xerospermophilus mojavensis*) was listed as a rare species in 1971 under the authority of the California State Endangered Species Act of 1970 (CESA) and was re-designated as a state threatened species in 1985 (Gustafson 1993). The MGS is small, grayish, diurnal squirrel. The California Department of Fish and Wildlife (CDFW) is the responsible agency that provides for its protection and management.

The Mohave ground squirrel (MGS) is a state listed threatened species. The proposed project site is located within the geographic range of the MGS (Figures 2 and 3).

MGS occur in the western half of the Mojave Desert. Its historical range encompasses an area between Antelope Valley and Lucerne Valley, in the south (Gustafson 1993). However, MGS occurrences in the southern portion of its range are very unusual. The northern limits of the range are near Owens Dry Lake bed, in the north, and through China Lake Naval Weapons Station and Fort Irwin Military Base in the east (Gustafson 1993). The eastern limit of the species range extends to Barstow and south along the Mojave River. The western limits loosely follow State Highway 14 and the foothills of the southern Sierra

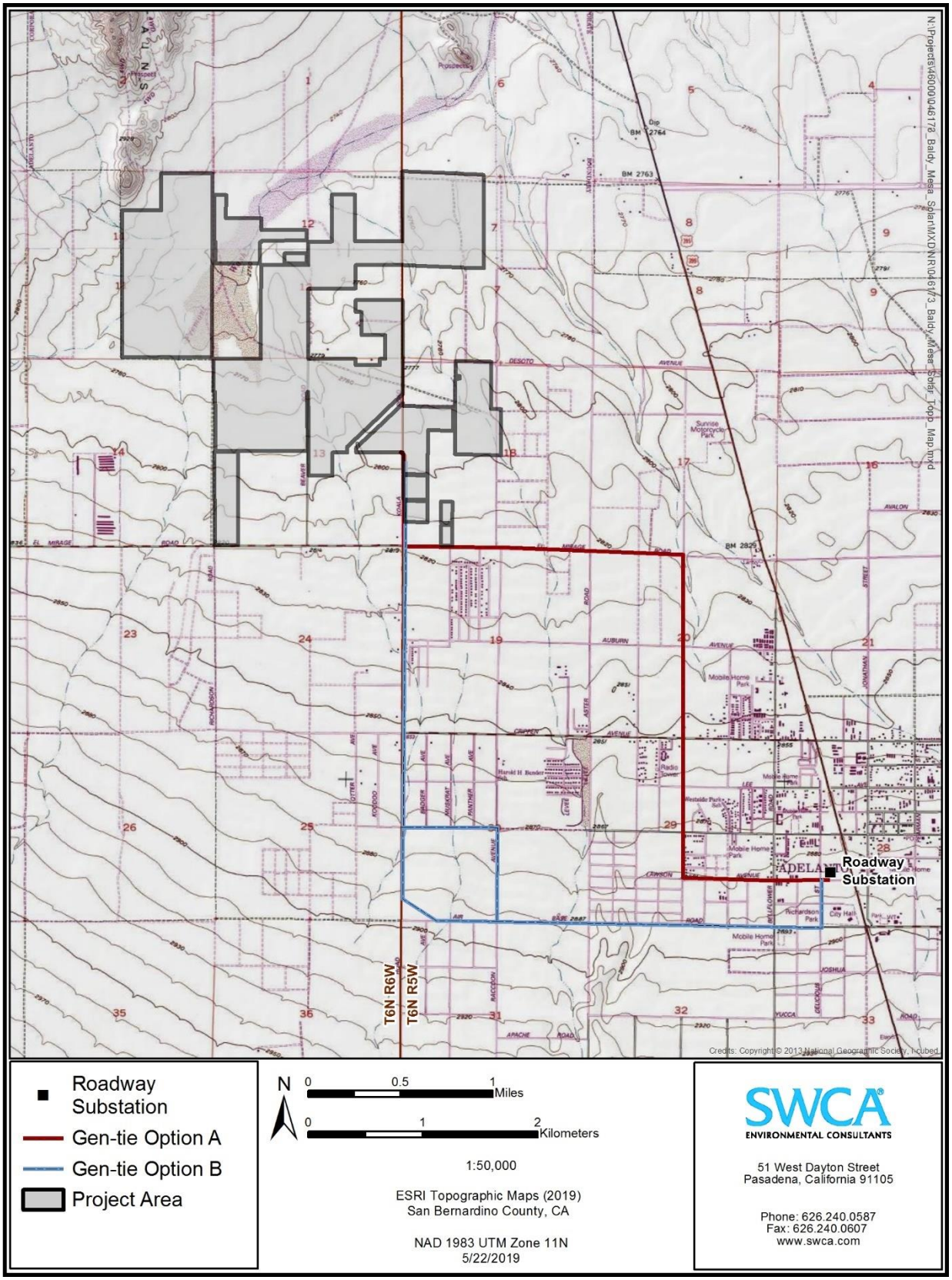

Figure 1. Proposed Project Site

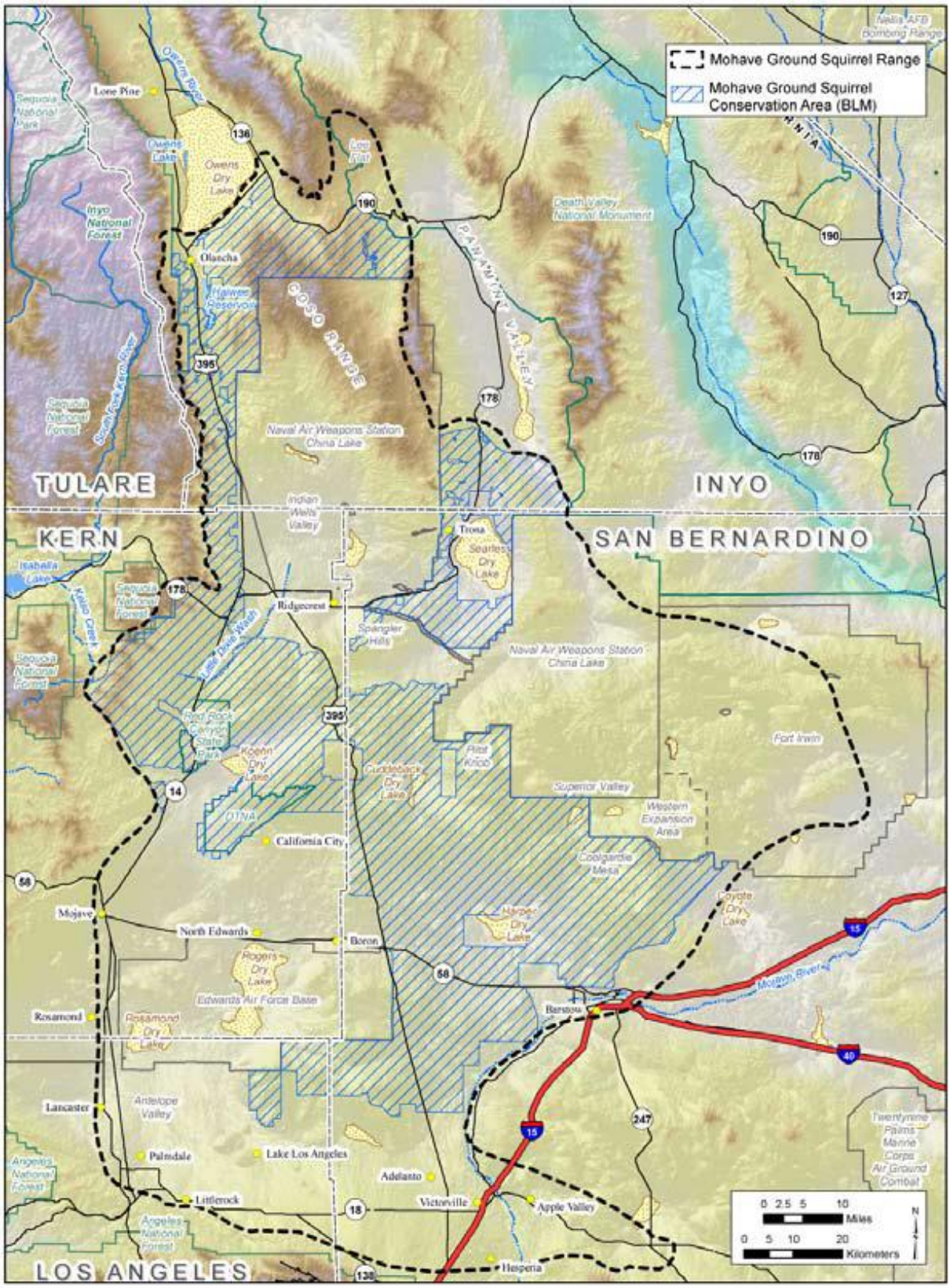

Figure 2. Geographic Range of MGS (from Lightner 2009)

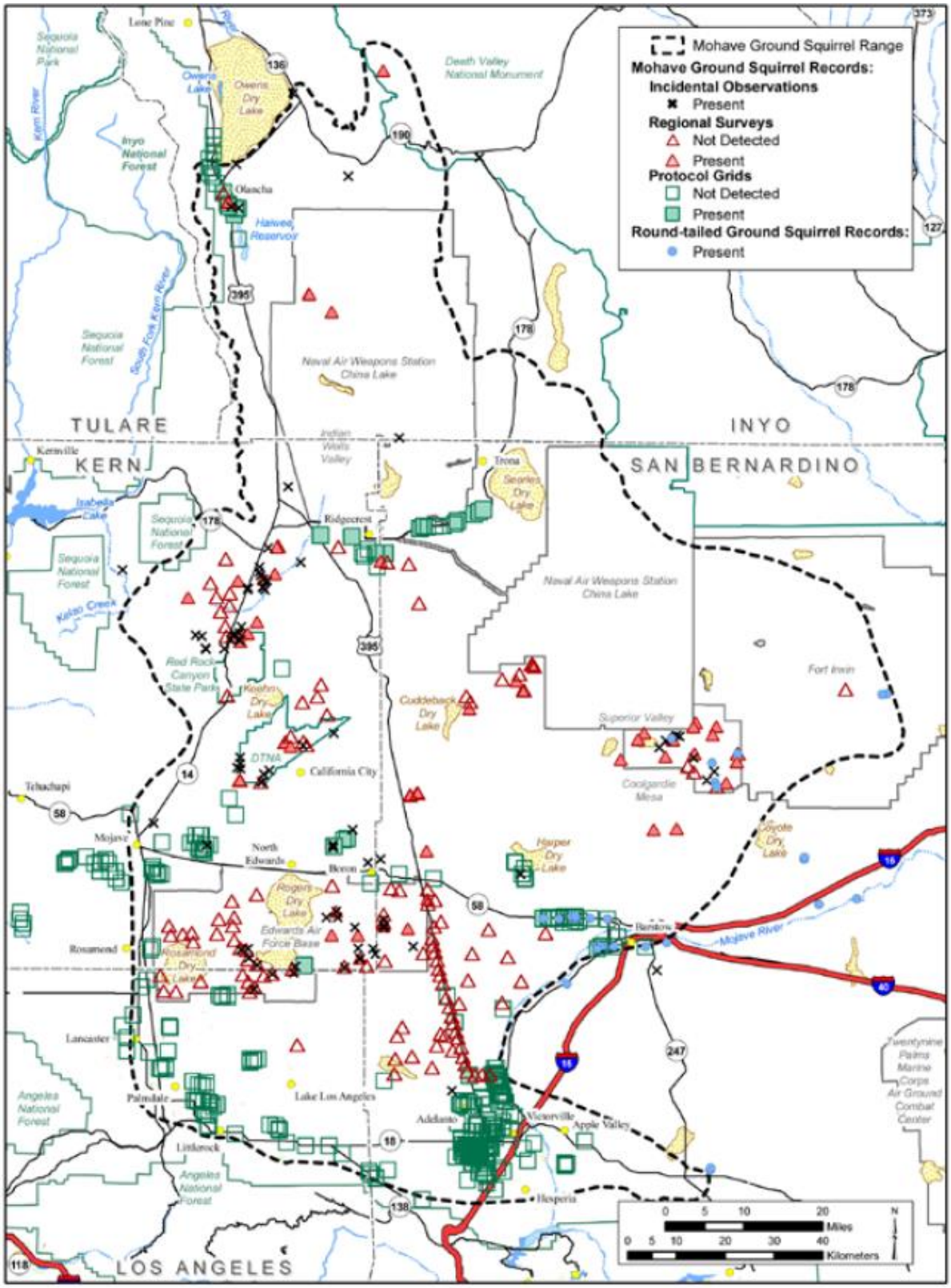

Figure 3. Summary of MGS Capture for Adelanto (from Lightner 2009).

Nevada escarpment (Gustafson 1993). Several other common squirrels occur within their range; antelope ground squirrel (AGS; *Ammospermophilus leucurus*), round-tailed ground squirrel (RTGS; *Xerospermophilus tereticaudus*) and the California ground squirrel (CGS; *Spermophilus beecheyi*). RTGS and CGS are commonly mistaken as MGS.

Mohave ground squirrel occurs in open desert scrub, alkali scrub, and Joshua Tree Woodland. They feed on annual grasslands and are endemic to the Mojave Desert in indicative vegetation communities such as Creosote Bush-White Bursage Scrub (*Larrea tridentata–Ambrosia dumosa* Shrubland Alliance) and saltbush scrub (*Atriplex* spp.). In recent years capture of MGS have occurred within fallow agricultural lands adjacent to occupied more traditional habitat.

The major threat to this species is habitat loss and fragmentation due to the development of urban, suburban, agricultural, military, and other human use. There are several California Natural Diversity DataBase (CNDDB) records adjacent to or near the Project area. The nearest CNDDB record of the Mohave ground squirrel, from 2005, is approximately 40 meters to the south of the Project site. Other records range from several to five miles from the site. Documented movement of marked MGS have been recorded for up to 3.9 miles (Harris and Leitner 2005).

MGS reproduction appears to be tied to adequate rainfall and forage. In low rainfall years (e.g., less than 6.5 cm [2.6 in.]), they may forego breeding (Mohave Ground Squirrel Working Group [MGSWG] 2011), and breeding may not occur for several years during prolonged drought (Best 1995). Because of the small geographic range of the species, low rainfall can lead to reproductive failure throughout the range (MGSWG 2011, Dudek 2012). Given the short life span of MGS, approximately 5 to 7 years, if too many years pass with less than 2.6 inches of rainfall this reproductive strategy may cause the extirpation of local populations.

MGS are dormant in the fall and winter months, but emerge from hibernation in February and begin pair bonding and mating during March (Gustafson 1993). If rainfall is adequate, MGS will reproduce. If rainfall levels are not sufficient to support substantial annual plant growth, then MGS will merely forage on herbaceous perennials and shrubs until they gain ample body mass for another prolonged period of dormancy (Gustafson 1993). The adult males can enter dormancy as early as late May. Juveniles will remain above-ground until August in order to acquire generous fat reserves prior to entering dormancy.

FOCUSED STUDY/SPECIES OF CONCERN

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans and relevant documents were reviewed to determine the locations and types of biological resources that have the potential to exist within and adjacent to the study area; resources within several miles of the Project Site were evaluated.

The materials reviewed included, but were not limited to, the following:

1. U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data;
2. California Natural Diversity Database maintained by the California Department of Fish and Wildlife;
3. California Native Plant Society (CNPS) Electronic Inventory (CNPS 2013);
4. Aerial Photographs (Microsoft Corporation 2013); and
5. Existing biological reports for the proposed project site

A list of documents used is provided in the reference section.

METHODS

Field survey methods were derived from generally accepted professional standards including the 2010 California Department of Fish and Game Mohave Ground Squirrel Survey Guidelines (CDFG 2010); and performed under the auspices of a Memorandum of Understanding (MOU) with the CDFW (Appendix A). Accordingly, a methodical pedestrian-survey of the study area was conducted to visually evaluate and characterize the suitable habitat on site.

In addition to the vegetation assessment surveys visual surveys for MGS were conducted along the same transects and from fixed points (Figure 4).

During the vegetation assessment, notes were taken on vegetation type, forage quality, number of potential ground squirrel burrows within 6 feet of transect line (all species), soil quality for fossorial mammals, and level of disturbance. The number of individual antelope ground squirrel observed, as well as one potential MGS were recorded. The data was used to determine overall habitat quality and potential for MGS occurrence. A matrix used for site assessment was used as follows:

Vegetation Ranking:

1 Sparse, highly disturbed, allscale scrub
2 Medium density, low disturbance, creosote present
3 Medium density, low disturbance, creosote dominant, presence of Yucca, other scrub diversity

Soils:

0 No fossorial mammal sign, alkali, cobbles, disturbed and hard-packed
1 Sandy fossorial mammal sign

Well Defined Incised Drainage Present:

1 Yes
0 No

Potential Ground Squirrel Burrows (all species, average per 400 meters, 3 transects):

0 No burrows
1 1 to 3
2 4 to 7
3 7 or more

Antelope Ground Squirrel Sightings:

0 None
1 1 to 3
2 More than 3

MGS Sightings:

0 None
1 1 or more

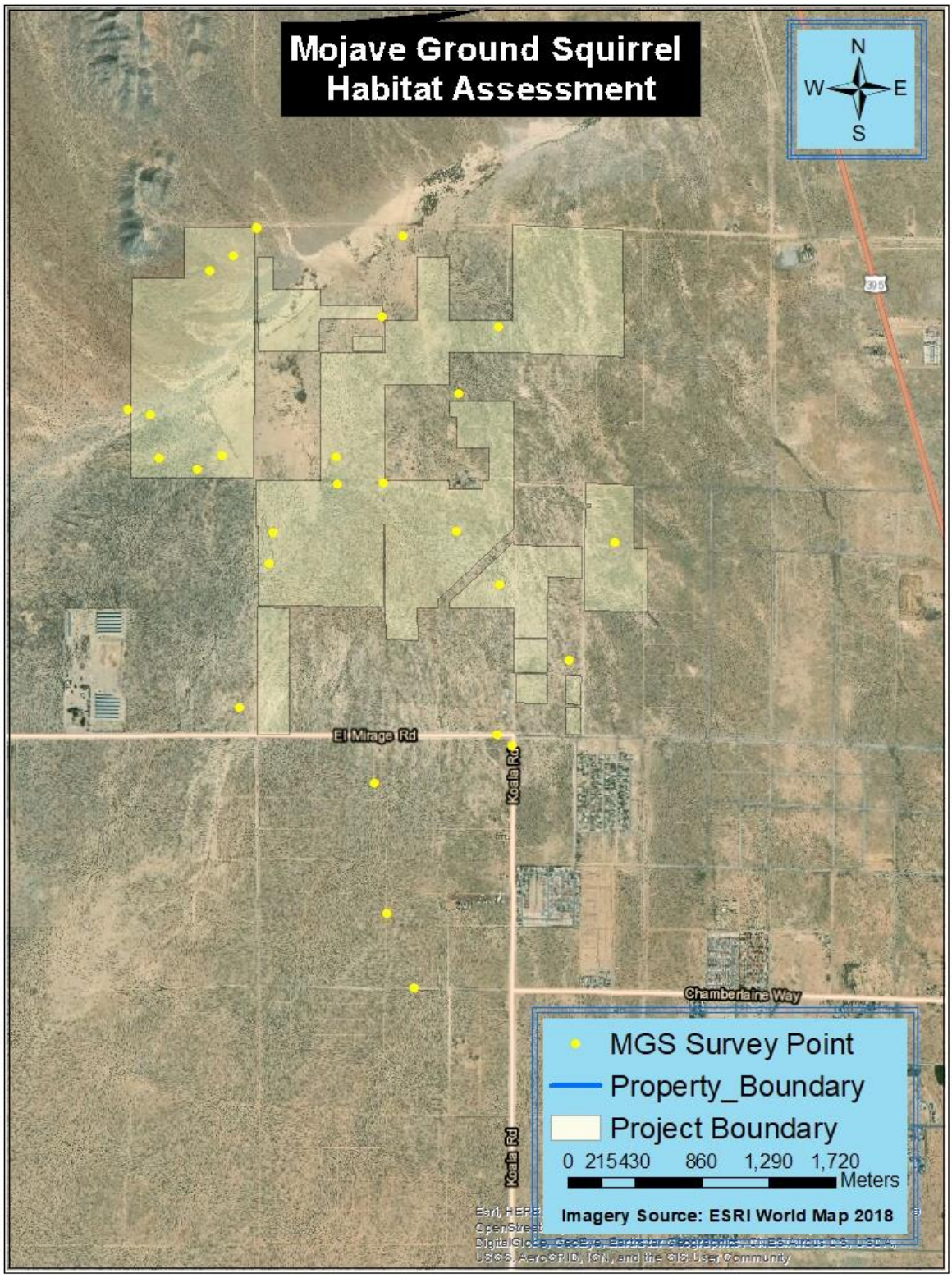

Figure 4. Location of Fixed Point Visual Surveys for MGS

RESULTS

Walking surveys were conducted on April 4, 5, 6, 8, 9, 10 of 2019 by Philippe Vergne who holds a CDFW Scientific Collection Permit # 4835 and a current Mohave Ground Squirrel MOU. The purpose of the survey was to evaluate the quality of potential MGS habitat on site and to carry out a visual survey for the species per protocol.

The surveys were conducted between 8:00 a.m. and 5:00 p.m. Conditions were sunny and cool, with temperatures that ranged between 44°F and 76°F and wind speed ranging from 0 to 12 miles per hour. The Project site was accessible by vehicle and surveyed on foot. Wildlife observations were made directly and aided by the use of binoculars, a spotting scope, or through sign including tracks, scat, and remains.

Site Topography and Vegetation Conditions

The Project site is relatively flat, with a maximum elevation of approximately 2,826 feet above mean sea level (amsl) at the southwestern corner of the Project at El Mirage Road and a minimum elevation of approximately 2,754 feet amsl at the northeastern corner just north of Colusa Road.

The majority of the area immediately surrounding the Project consists of open space, with the Shadow Mountains to the north and U.S Route 395 to the east. The Fremont Wash traverses parts of the northern and western portions of the Project.

A detailed analysis of current vegetation conditions on site was performed by SWCA Environmental Consultants in January of 2019, and documented in their report of May 2019 (Figure 5). Per that document:

> "Vegetation in the Project area consists of intermittent native shrubs interspersed with Joshua trees. Six vegetation communities were identified on-site using A Manual of California Vegetation (Sawyer et al. 2009): White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance), Fourwing Saltbush Scrub (*Atriplex canescens* Shrubland Alliance, Allscale Scrub (*Atriplex polycarpa* Shrubland Alliance), Nevada Joint Fir Scrub (*Ephedra nevadensis* Shrubland Alliance), Creosote Bush-White Bursage Scrub (*Larrea tridentata-Ambrosia dumosa* Shrubland Alliance), and Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance)…The habitats transition from saltbush scrub with sandy and alkaline soils in and around the Fremont Wash to upland communities with cobble-dominated soils in the southeastern part of the Project site…Many ephemeral washes flow through the Project site and are generally dominated by saltbush and Nevada joint fir (*Ephedra nevadensis*)."

Site disturbances include transmission line and easement, dirt roads, off-road vehicle use, water pipeline easement, limited illegal trash dumping, recreational use (walking, horses). Feral dogs were observed on two occasions foraging on the Site (See Photo Log).

Some homes are located near the Project. Light industrial buildings and trailers occur off site to the west. A residential community is located approximately south of the southernmost parcels of the Project. The gen-tie routes are located along existing roads and/or traverse relatively flat open space, often adjacent to the residential communities that are interspersed throughout the area. Overall disturbances on site are low to moderate and should not have a major impact to potential MGS occupancy on significant portions of the site

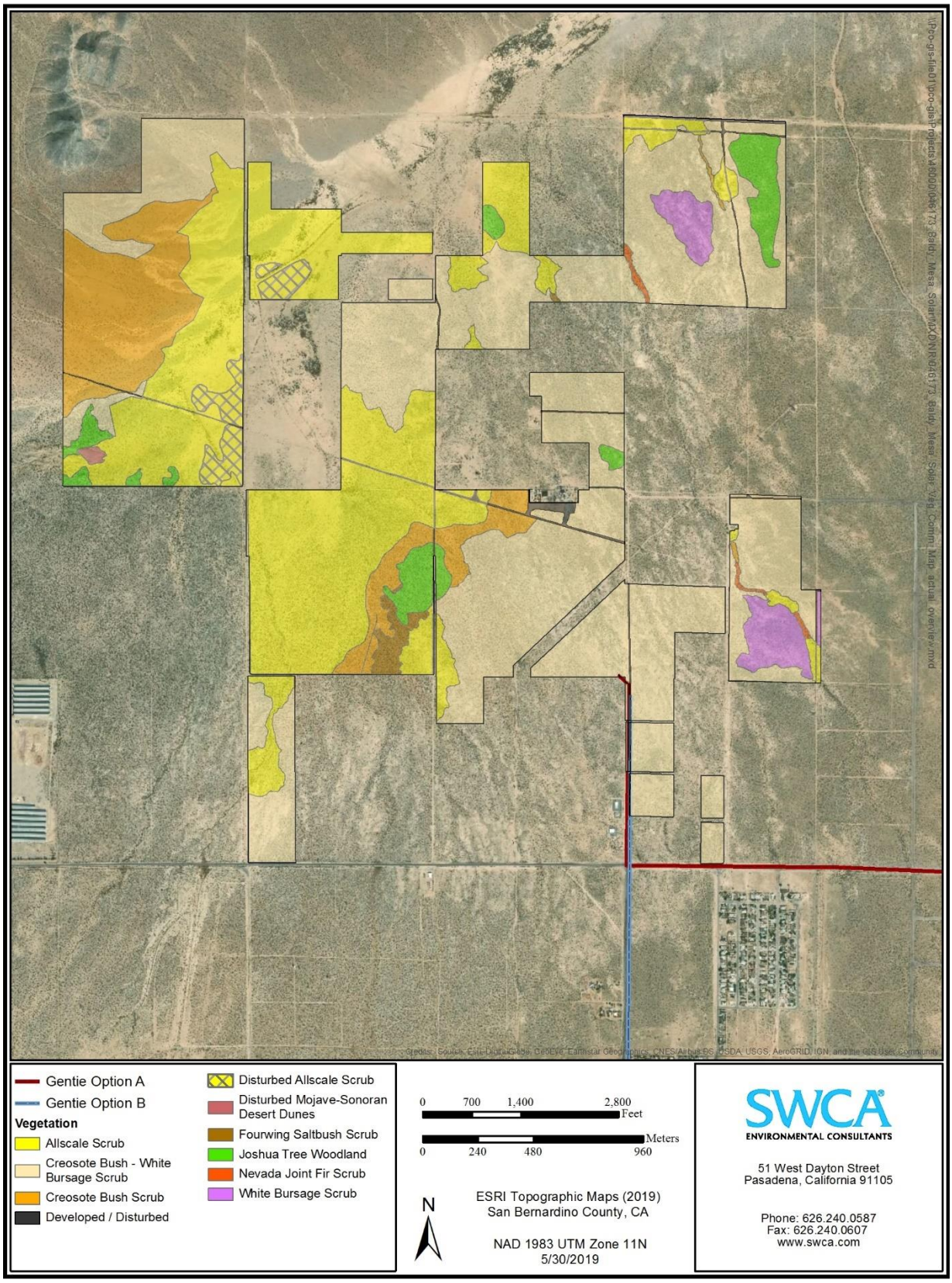

Figure 5. Vegetation Communities and Land Cover Overview

Current Site Suitability for MGS Occupancy

The majority of the site is potential habitat for MGS, which per our field survey and analysis ranges from levels of low to high potential per the Figure 6. Table 1 gives the summary of the habitat quality matrix used to plot the habitat quality.

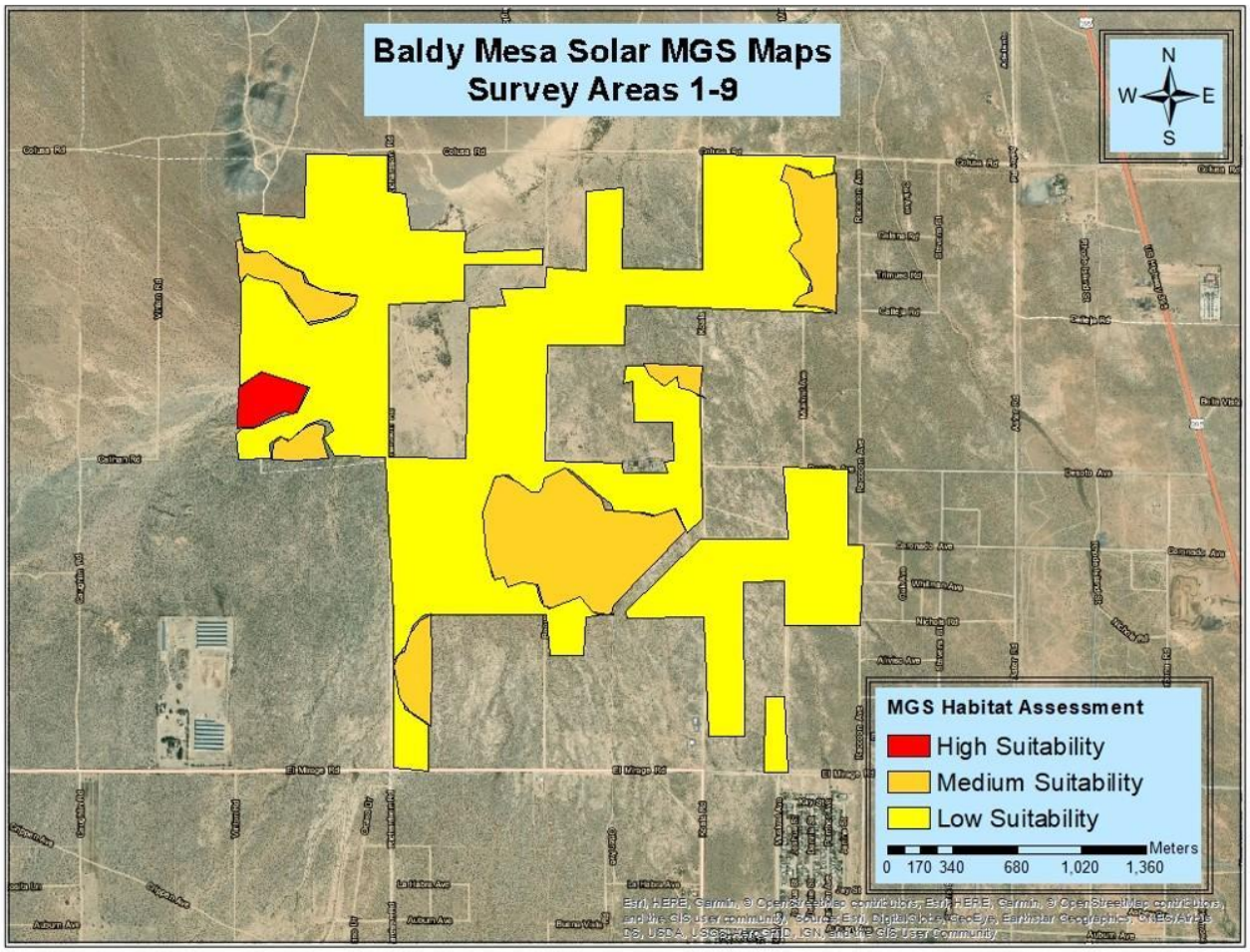

Figure 6. MGS Habitat Quality

There are areas within the project which have very low suitability or no suitability but these are limited in size and surrounded by potential habitat. These include areas of desert pavement, dirt roads, and alkali flats. Table 1 provides the summary of the site suitability analysis.

Table 1. Site Suitability Analysis

Map Reference[1]	Vegetation Ranking[2]	Soils Ranking	Drainages Present	Ground Squirrel Burrows (number per 400 m)	AGS Sightings	MGS Sightings	*Total*
M1	1	0	1	1	0		***3***
M1	2	1	1	2	2		***8***
M1	3	1	1	3	2	(1 UNK)*	***10***
M2	1	1	1	1	0		***4***
M3	1	1	1	1	1		***5***

Map Reference[1]	Vegetation Ranking[2]	Soils Ranking	Drainages Present	Ground Squirrel Burrows (number per 400 m)	AGS Sightings	MGS Sightings	*Total*
M4	1	1	1	3	1		***7***
M4	2	1	0	1	1		***5***
M5	2	1	1	3	2		***9***
M5	1	1	0	1	1		***4***
M6	1	1	0	1	0		***3***
M7	1	1	0	1	1		***4***
M8	1	1	1	2	1		***6***
M8	2	1	1	2	2		***8***
M9	1	1	0	2	1		***5***

[1] Map reference per Figure 7.

[2] See Methods section for rankings

[*] UNK represents a very short glimpse of small ground squirrel no apparent stripes, no tail over back while moving. Only seen with naked eye while animal running. Animal did not re-appear although we stayed at general location for 2 hours. Location of sighting is 34-36-57.76 N and 117-28-48.44 W.

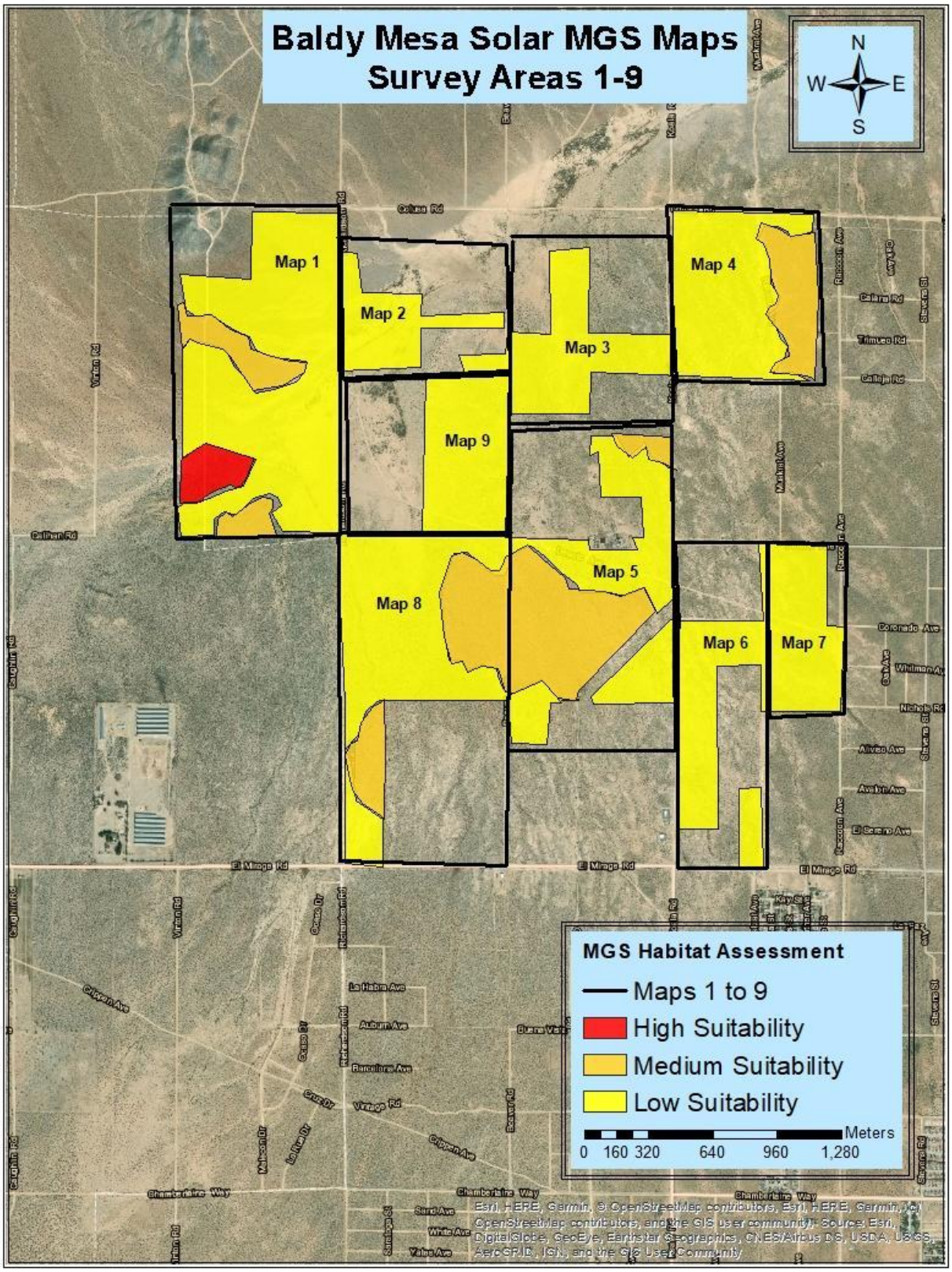

Figure 7. Site Suitability Analysis Reference Map for Table 1

There are an estimated 18.1 acres of high quality habitat, 166.4 acres of medium quality, 1,004.4 acres of low quality, and about 8.7 acres of roads on site.

Table 2. MGS Habitat Quality

Habitat Quality	Acres
High	18.1
Medium	166.4
Low	1,004.4
Roads/Develop	8.7

DISCUSSION AND CONCLUSION

The proposed project site was located within the geographic range of the MGS. MGS suitable cover and forage habitat of varying quality occurs throughout the site;therefore, the majority of the proposed project site is potentially suitable for MGS occupancy.

Habitat conditions on site range from low to high.

The winterfat (*Eurotia lanata*), and spiny hopsage (*Grayia spinosa*) vegetation, which are considered important forage for MGS (Leitner 2009), appear mostly absent from the site. However, saltbrush, which is fairly abundant can be a major part of their diet when forbs dry out.

The occurrence of numerous washes were noted on the study site. The presence of washes conversely increases the likelihood of MGS presence on the study site (even with absence of winterfat and hopsage) or their ability to persist during long term drought conditions (Logan 2016) through the increased production of forage such as forbs.

Due to proximity of MGS documented occurrences in the CNDDB (approximately 40 meters from property) and other locations nearby, wildlife corridors are expected to exist between the site and documented MGS sightings. A potential MGS sighting on site could not be fully confirmed but indicates that either the MGS or round tailed ground squirrel occur on site.

Human impacts to the area are expected to continue. Off-highway vehicle (OHV) use has been observed in this area during surveys. OHV tracks were observed within the project site. Habitat in the general area will likely continue to become slightly degraded and fragmented over time independent of the installation of the proposed project.

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Appendix A
Floral and Faunal Compendium

* denotes non-native species

GNETAE	**JOINTED STEM PLANTS**
Ephedraceae	**Ephedra family**
Ephedra nevadensis	Mormon tea
ANGIOSPERMAE: DICOTYLEDONES	**DICOT FLOWERING PLANTS**
Asteraceae	**Sunflower family**
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia dumosa	Burrobush
Ambrosia salsola	Cheesebush
Encelia farinosa	Desert brittlebush
Ericameria cooperi	Coopers goldenbush
Ericameria nauseosana	Rabbitbrush
Gutierrezia californica	California matchweed
**Taraxacum officinale*	Common dandelion
Tetradymia comosa	Cotton-thorn
Xylorhiza tortifolia	Desert aster
Boraginaceae	**Borage family**
Amsinckia tessellata	Desert fiddleneck
Pectocarya heterocarpa	Slender desert popcorn
Tiquilia plicata	Desert coldenia
Brassicaceae	**Mustard family**
**Brassica nigra*	Black mustard
**Lepidium perfoliatum*	Weedy peppergrass
**Sisymbrium irio*	London rocket
Cactaceae	**Cactus family**
Opuntia acanthocarpa	Golden cholla
Opuntia basilaris	Beavertail cactus
Capparaceae	**Caper family**
Isomeris arborea	Bladderpod
Chenopodiaceae	**Saltbush family**
Atriplex canescens	Four-winged saltbush
Atriplex confertifolia	Spiny saltbush
Atriplex polycarpa	Many-headed saltbush
Krascheninnikovia lanata	Winterfat
**Salsola tragus*	Russian thistle

Fabaceae	**Pea family**
Astragalus laynae	Layne milkvetch
Geraniaceae	**Geranium family**
**Erodium cicutarium*	Red-stemmed filaree
Onagraceae	**Evening primrose family**
Camissonia campestris	Mojave sun cup
Oenothera californica	White evening primrose
Polygonaceae	**Buckwheat family**
Chorizanthe rigida	Desert spiny-herb
Eriogonum fasciculatum	California buckwheat
Eriogonum inflatum	Desert trumpet
Solanaceae	**Nightshade family**
Lycium andersonii	Anderson's box thorn
Zygophyllaceae	**Caltrop family**
Larrea tridentata	Creosote bush

ANGIOSPERMAE: MONOCOTYLEDONAE MONOCOT FLOWERING PLANTS

Agavacea	**Agave family**
Yucca brevifolia	Joshua Tree
Poaceae	**Grass family**
**Bromus madritensis*	Red brome
**Bromus tectorum*	Cheatgrass
**Schismus barbatus*	Mediterranean grass

Taxonomy and nomenclature follow Hickman 1993 and Munz 1974.

FAUNA

INSECTA	**INSECTS**
Acrididae	**Grasshoppers**
Trimerotropis pallidipennis	Pallid-winged grasshopper
Apidae	**Bees**
Apis mellifera	Honey bee
Forficulidae	**Earwigs**
Forficula auricularia	European earwig
REPTILIA	**REPTILES**
Testudinidae	**Land tortoises**
Gopherus agassizii	Desert tortoise (scat off site by house, at 34° 36’ 59.15” N, 117° 27’ 18.41” W)
Iguanidae	**Iguanas and their allies**
Dipsosaurus dorsalis	Desert iguana
Uta stansburiana	Side-blotched lizard
Xantusiidae	**Night lizards**
Xantusia vigilis	Desert night lizard
Teiidae	**Whiptails and their allies**
Cnemidophorus tigris tigris	Great Basin whiptail
AVES	**BIRDS**
Cathartidae	**Vultures**
Cathartes aura	Turkey vulture
Falconidae	**Caracaras and falcons**
Falco mexicanus	Prairie falcon
Columbidae	**Pigeons and doves**
Zenaida macroura	Mourning dove
Tytonidae	**Barn owl**
Tyto alba	Barn owl
Camprimulgidae	**Goatsuckers**
Chordeiles acutipennis	Lesser nighthawk
Tyrannidae	**Tyrant flycatchers**
Tyrannus verticaulis	Western kingbird

Alaudidae	**Larks**
Eremophila alpestris	Horned lark
Corvidae	**Crows and ravens**
Corvus corax	Common raven
Lanidae	**Shrikes**
Lanius ludovicianus	Loggerhead shrike
Emberizidae	**Warblers, sparrows, blackbirds and relatives**
Zonotrichia leucophrys	White-crowned sparrow
Sturnella neglecta	Western meadowlark

MAMMALIA	**MAMMALS**
Leporidae	**Rabbits and hares**
Sylvilagus audubonii	Audubon's cottontail
Lepus californicus	Black-tailed jackrabbit
Sciuridae	**Squirrels, chipmunks and marmots**
Ammospermophilus leucurus	White-tailed antelope squirrel
Geomyidae	**Pocket gophers**
Thomomys bottae	Botta's pocket gopher
Heteromyidae	**Pocket mice and kangaroo rats**
Dipodomys merriami	kangaroo rat
Canidae	**Foxes, wolves and relatives**
Canis latrans	Coyote
Vulpes macrotis	Kit fox

Nomenclature follows Garth & Tilden 1986, Hall 1981, Laudenslayer et al. 1991, and Stebbins 1966.

Appendix B
Site Photographs



High Quality Habitat on Site



Low Quality Habitat Alkali Flat



Medium Quality Habitat on Site



Small Area of Sand Dunes Extends West Beyond Site



Ground Squirrel Burrow (MGS, RTGS, or AGS) on Site



Low Quality Desert Pavement on Site



Dirt Road and ORV Use in Medium Quality Habitat



Low quality Habitat with Drainage



Trash Pile on Site

Appendix B BIOLOGICAL RESOURCES

B.7 DESERT TORTOISE DRONE HABITAT ASSESSMENT



SWCA
ENVIRONMENTAL CONSULTANTS
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Tel 626.240.0587 Fax 626.240.0607
www.swca.com

TECHNICAL MEMORANDUM

To: Dallas Pugh
sPower Sustainable Power Group
5000 East Spring Street, Suite 130
Long Beach, California 90815

From: Pauline Roberts, Natural Resources Team Lead

Date: August 19, 2019

Re: **Desert Tortoise Habitat Assessment for the Baldy Mesa Solar Project / SWCA Project No. 46173**

INTRODUTION AND PROJECT BACKGROUND

sPower Sustainable Power Group (sPower) proposes to develop the Baldy Mesa Solar Project (project) as a utility-scale solar photovoltaic (PV) energy generating facility located on approximately 1,198 acres in the City of Adelanto, in San Bernardino County, California. Electrical power generated by the project will interconnect with the power grid at an existing local substation approximately 4.8 miles from the main project site via a generation tie-line (gen-tie).

This technical memorandum assesses habitat conditions at the project for desert tortoise (*Gopherus agassizii*), which is listed as threatened under the California Endangered Species Act and the federal Endangered Species Act. This report specifically evaluates desert tortoise habitat as affected by anthropogenic disturbances at the project, and supplements the desert tortoise survey report.[1]

The Project is located in the northwestern portion of the City of Adelanto and adjacent to unincorporated San Bernardino County in the western Mojave Desert (Figure 1). The main project area, which includes the solar arrays and infrastructure that will be enclosed in fencing, encompasses approximately 1,198 acres (Figure 2). The main project area is bounded by El Mirage Road on the south, Colusa Road on the north, extends 0.5 mile west of Richardson Road on the west, and to Raccoon Road on the east. The main project area is not a contiguous polygon; several parcels within the general bounds are not part of the proposed project (see Figure 2).

APPROACH

SWCA biologists conducted a survey of the main project area using an unmanned aerial vehicle (UAV, or drone) to collect high-resolution imagery of the site. The survey was flown on July 17-19, 2019 using a Phantom 4 Pro Quadricopter. The initial surveys were flown at 260 feet above ground level (agl); after initial data review all subsequent flights were flown at 200 feet agl due to the improved image quality. Flights were not made over residences or electrical transmission lines, consistent with Federal Aviation Administration guidelines.

[1] SWCA Environmental Consultants. 2019. Desert Tortoise Survey for the Baldy Mesa Solar Project. Pasadena, CA.

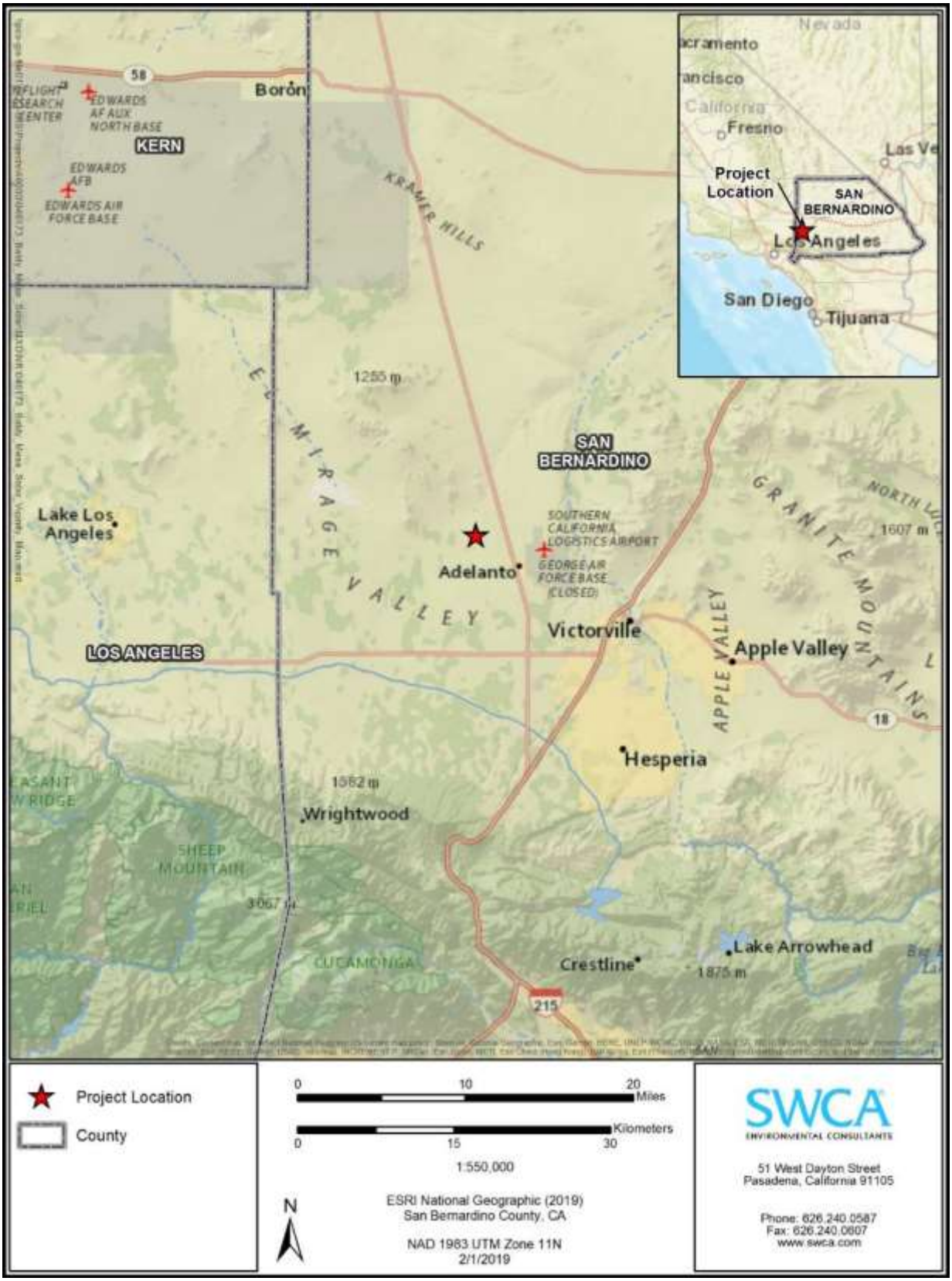

Figure 1. Regional vicinity map

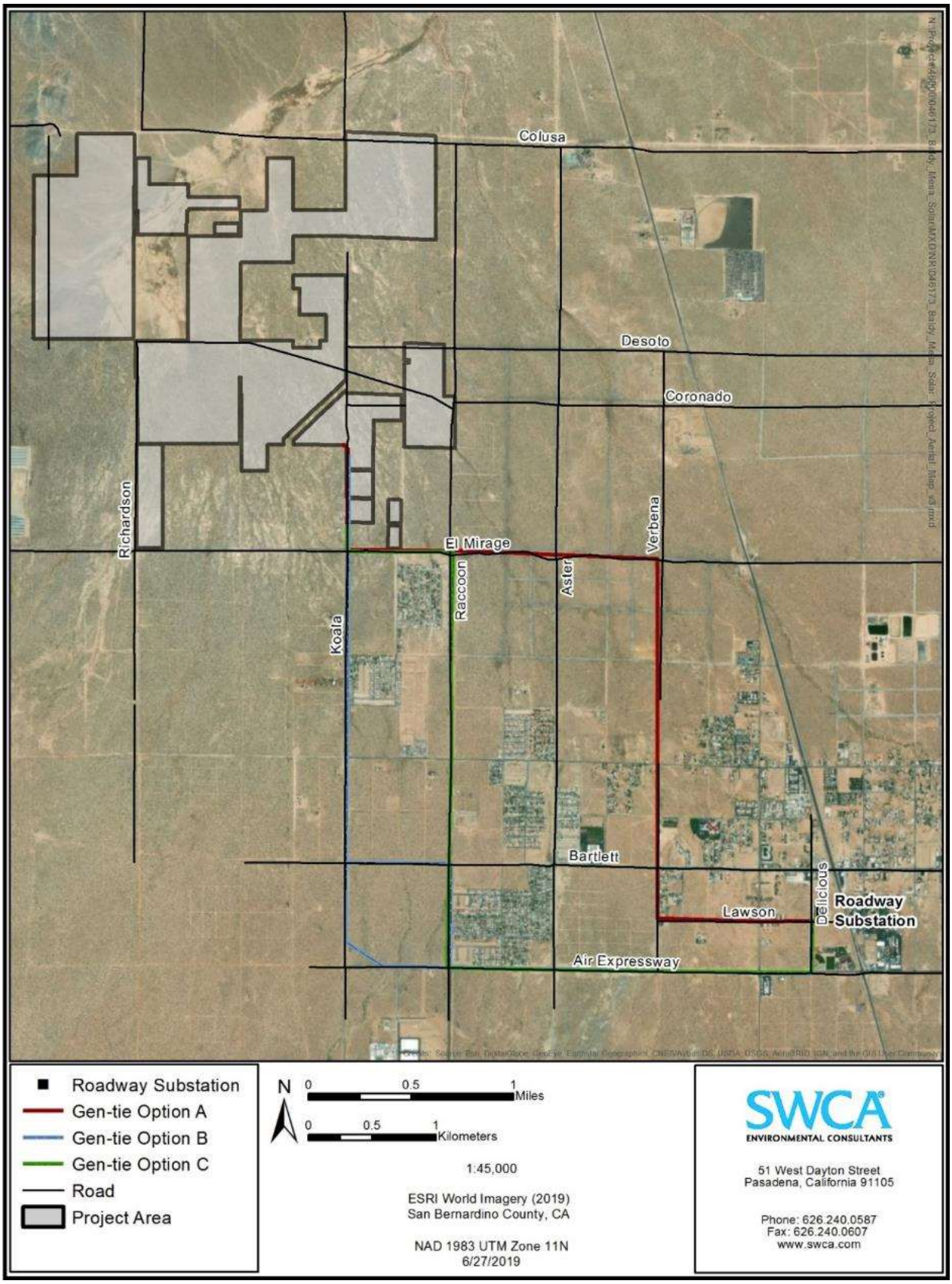

Figure 2. Project location map.

Images collected by the UAV were assembled into a single three-dimensional raster image using Pix4DMapper software. A local relief model was generated from the imagery, and potential areas of roads and other disturbances identified. Roads, trash piles, and other disturbed areas were validated and digitized using ESRI ArcMap and ArcGIS Pro.

In addition to the UAV survey, this habitat assessment was informed by desktop reviews and field surveys conducted by SWCA biologists at the project in 2019. The detailed methods and results of those biological surveys are described in other reports.[2]

SPECIES BACKGROUND

The desert tortoise is a federally threatened and state threatened species. This species occurs in almost every desert habitat, but is most common in desert scrub, desert wash, and Joshua tree habitat, typically below 5,000 feet in elevation. These habitats are typically dominated with creosote bush and white bursage (*Ambrosia dumosa*), but may also consist of cacti (*Opuntia* spp.) and saltbush (*Atriplex* spp.). They require friable soil for burrowing and nest construction and prefer creosote bush habitat with large annual wildflower blooms. Desert tortoises are most active during spring and early summer, then again during fall. During the hot summer months, they are usually found within burrows or other shelter sites, but may emerge after a rain event. Desert tortoises enter a state of torpor and remain in their burrows during the coldest months, typically November to February. In addition to burrows within soil, tortoises may also shelter in other structures, including caliche caves, lava tubes, rock caves, rodent or other mammal burrows, shrubs, and human made structures.[3] Desert tortoise are long-lived and site-faithful, with lifespans of up to 80 years.

Threats

Threats to the species were reviewed in the U.S. Fish and Wildlife Service (USFWS) *Revised Recovery Plan*.[4] There are numerous threats to this species both direct and indirect. Direct threats affect the survival and reproduction of the tortoise and include road mortality, illegal collecting, disease, and predation. Indirect threats are factors that primarily affect tortoise habitat, such as drought, climate change, and habitat alterations from recreational use and grazing.[5]

PROJECT SITE CONDITIONS

The majority of the area immediately surrounding the project consists of open space, with the Shadow Mountains to the north and U.S. Route 395 to the east. The Fremont Wash traverses parts of the northern and western portions of the Project. A few residences homes are located near the project. One residence is located near within the general bounds of the project, west of the intersection of Koala Avenue and De Soto Avenue. SWCA biologists reported loose dogs on the project site, primarily near residences. A half-dozen other smaller residences are located near the main project area. Another residential community is

[2] SWCA Environmental Consultants (SWCA). 2019. Biological Resources Technical Report for the Baldy Mesa Solar Project, Adelanto, California. Pasadena, CA.

SWCA. 2019. Desert Tortoise Survey for the Baldy Mesa Solar Project. Pasadena, CA.

SWCA. 2019. Rare Plant Survey for the Baldy Mesa Solar Project, Spring 2019. Pasadena, CA.

[3] U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Sacramento, California.

[4] U.S. Fish and Wildlife Service. 2011. Revised recovery plan for the Mojave population for the desert tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service , Pacific Southwest Region. Sacramento, CA.

[5] Boarman, W.I. 2002. Desert Tortoise (*Gopherus agassizii*). *In:* Boarman, W.I. and K. Beaman, editors. The sensitive plant and animal species of the Western Mojave Desert. U. S. Geological Survey, Western Ecological Research Center, Sacramento, CA.

located approximately 125 meters south of the southernmost parcels of the Project. The gen-tie routes are located along existing roads and/or traverse relatively flat open space, adjacent to several residential communities (see Figure 2).

Habitat Conditions

Vegetation

Dominant vegetation at the project consists of sparsely distributed native shrubs interspersed with Joshua trees (*Yucca brevifolia*). SWCA biologists mapped 8 vegetation communities at the project using *A Manual of California Vegetation* (Table 1, Figures 3 and 4).[6] The habitats transition from saltbush scrub with sandy and alkaline soils in and around the Fremont Wash to upland communities with cobble-dominated soils in the southeastern part of the main project area (see Figures 3 and 4). Acres of the coverage for each vegetation community reflect the main project site, and do not include the gen-tie route options.

Table 1. Summary of Vegetation and Land Cover Types

Vegetation Community	Acres within the Project Site*
White Bursage Scrub *Ambrosia dumosa* Shrubland Alliance	32.2
Fourwing Saltbush Scrub *Atriplex canescens* Shrubland Alliance	8.9
Allscale Scrub *Atriplex polycarpa* Shrubland Alliance	404.2
Mojave-Sonoran Desert Dunes *Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance	1.6
Nevada Joint Fir Scrub *Ephedra nevadensis* Shrubland Alliance	3.2
Creosote Bush Scrub *Larrea tridentata* Shrubland Alliance	127.9
Creosote Bush-White Bursage Scrub *Larrea tridentata-Ambrosia dumosa* Shrubland Alliance	562.5
Joshua Tree Woodland *Yucca brevifolia* Woodland Alliance	44.1
Red Brome or Mediterranean Grass Grasslands *Bromus rubens - Schismus* (*arabicus, barbatus*) Herbaceous Semi-Natural Alliance	N/A (found only along the gen-tie route options)
Developed/Disturbed	11.6

* Acres within the main project area, excludes the gen-tie routes. Disturbed and undisturbed vegetation alliances were mapped separately as shown in Figures 4-6; acres here include both.

Many ephemeral washes flow through the project site, which are generally dominated by saltbush and Nevada joint fir (*Ephedra nevadensis*). Due to the timing and nature of the survey, vegetation communities were identified to the extent feasible, and some communities dominated by herbaceous species may be present which were not identifiable during the winter season.

[6] Sawyer, J.O., T. Keeler-Wolf and J.M. Evens. 2009. Manual of California Vegetation.2nd ed.. California Native Plant Society. Sacramento, California.

SWCA Environmental Consultants. 2019. Biological Resources Technical Report for the Baldy Mesa Solar Project, Adelanto, California. Pasadena, CA.

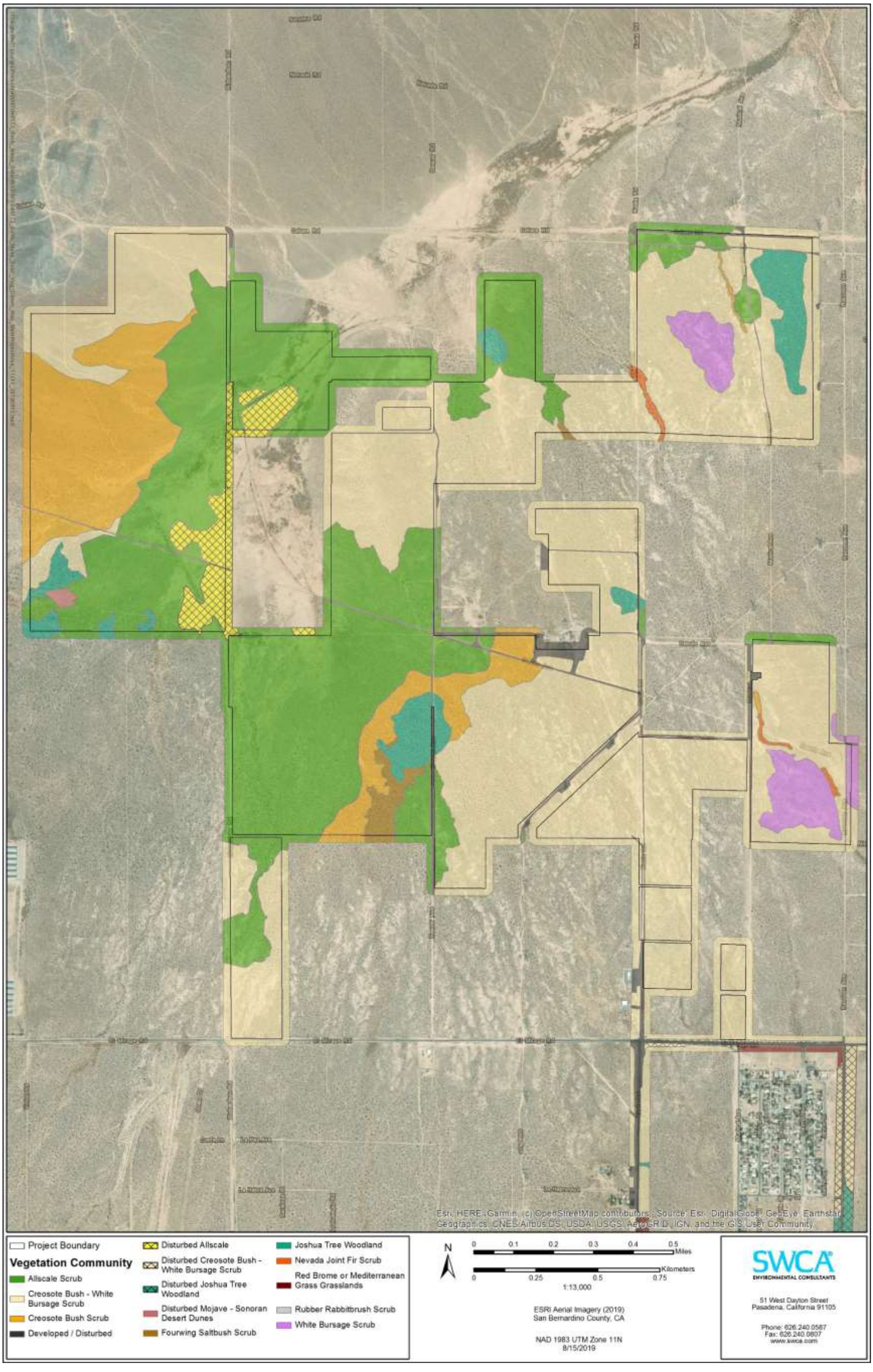

Figure 3. Vegetation communities mapped in the main project area.

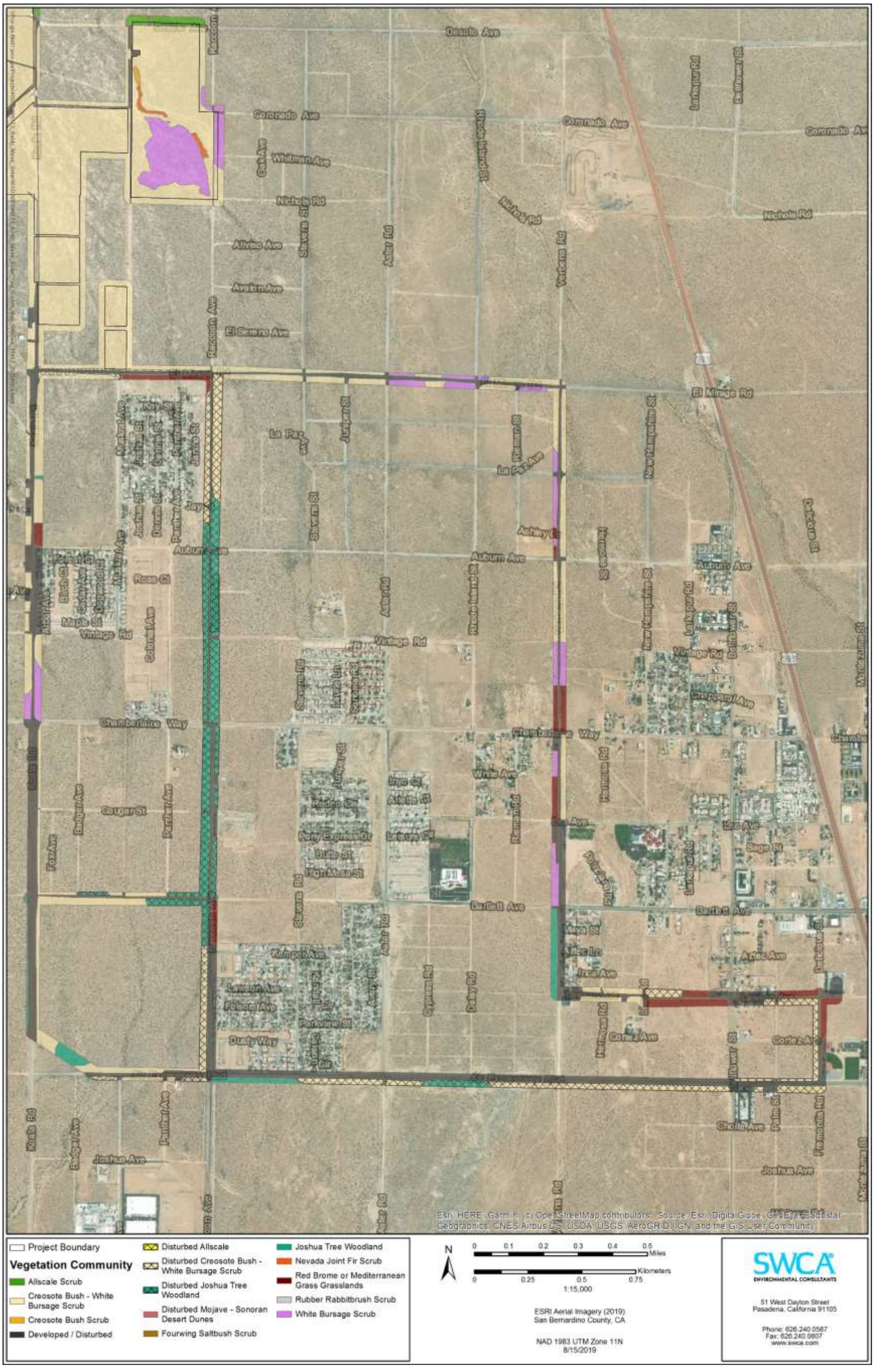

Figure 4. Vegetation communities mapped along the gen-tie route options.

Small areas of the project, including clay pans devoid of vegetation near the Fremont Wash and dunes comprised of windblown sand, do not have suitable soils for burrowing or which support food plants. Desert tortoise may cross these areas, but would not spend time there.

The project site contains the appropriate vegetation composition, soils, and topography to support desert tortoises, and is located within the species' geographic range.

Desert Tortoise Observations

California Natural Diversity Database (CNDDB) records

The nearest CNDDB occurrence of desert tortoise is from 2002 and is located 2.7 miles north of the project, and there is a 2008 record of two individuals approximately 5 miles northwest of the project.[7]

Project Site Observations

No live tortoises or carcasses were found during the protocol desert tortoise survey.[8] A total of 59 tortoise and possible tortoise burrows were recorded during the survey, including one Class 1 burrow (Table 2). The western and northeastern portions of the site contained the most sign, but the site had little indication of recent tortoise use (Figure 5). While not all tortoises are expected to be visible at any given time, the surveys were conducted when tortoises are most likely to be above ground, on both a seasonal and daily basis. Additionally, all open burrows were visually searched and did not yield any live tortoises or carcasses. The Class 1 burrow was revisited multiple times during the desert tortoise protocol survey, and on June 24 during a follow-up survey; no tracks, fresh digging, new scat, or other signs of recent use were observed.

Table 2. Desert Tortoise Sign Observed during 2019 Protocol Survey

Desert Tortoise Sign	Quantity Observed
Class 1: currently active, with desert tortoise or recent desert tortoise sign	1, with scat inside
Class 2: good condition, definitely desert tortoise; no evidence of recent use	9, one with scat > 1 year old
Class 3: deteriorated condition which includes collapsed burrows; definitely desert tortoise	35
Class 4: good condition; possibly desert tortoise	6
Class 5: deteriorated condition which includes collapsed burrows; possibly desert tortoise	8
Scat, not at a burrow	1
Total:	*59 burrows, 3 scat*

Note: Burrow class definitions from U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (Gopherus agassizii). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

[7] California Department of Fish and Wildlife. 2019. RAREFIND database ed.3.1.1. Electronic database managed by the Natural Diversity Data Base, Wildlife Data and Habitat Analysis Branch, California Department of Fish and Wildlife. Sacramento, California. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed August 2019.

[8] SWCA. 2019. Desert Tortoise Survey for the Baldy Mesa Solar Project. Pasadena, CA.

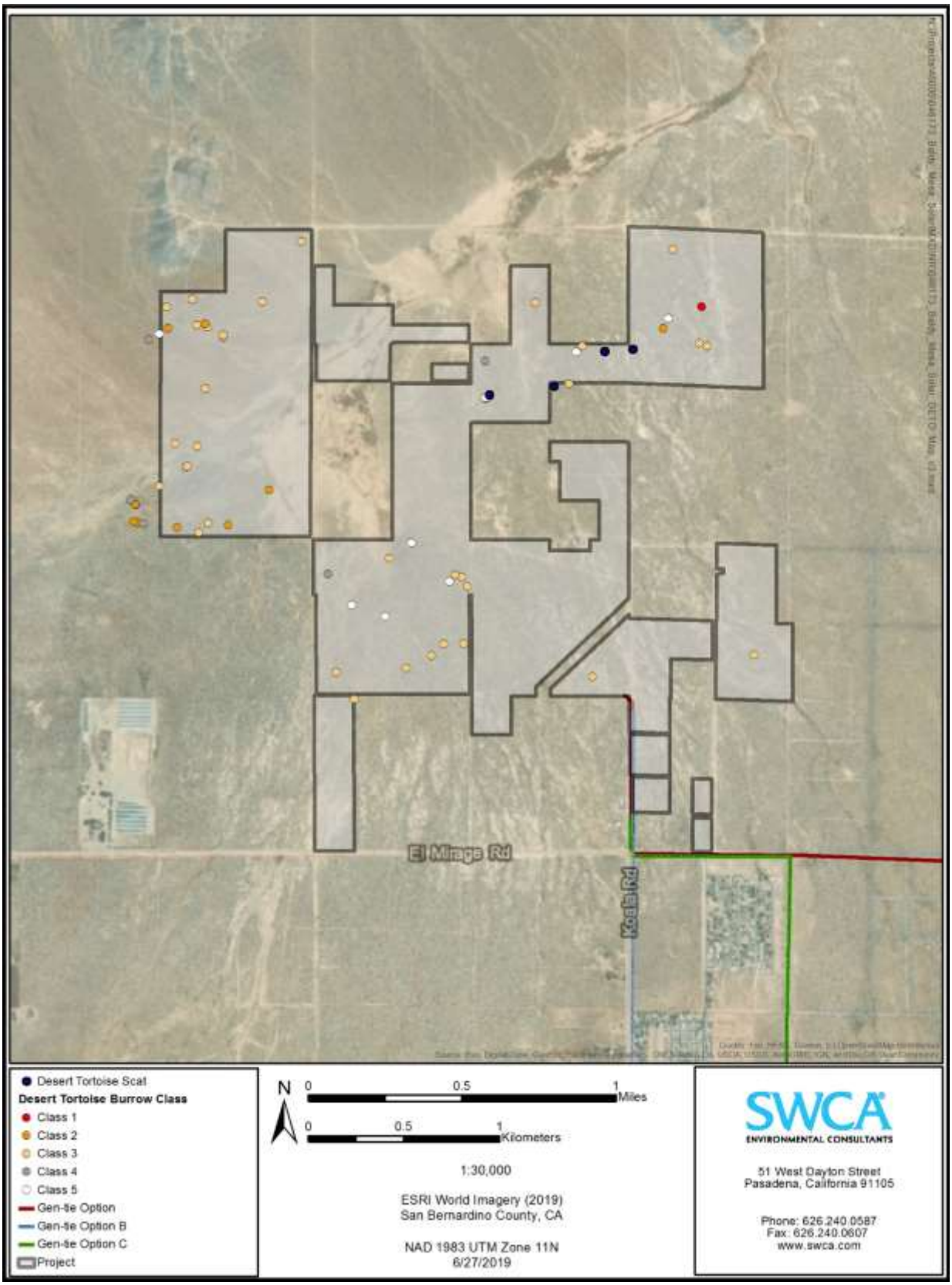

Figure 5. Desert tortoise sign recorded at the project in 2019 during a protocol survey.

Threats

Predators

Likely natural predators of juvenile and adult tortoises observed during SWCA surveys included individuals or signs of coyote (*Canis latrans*), American badger (*Taxidea taxus*), common raven (*Corvus corax*), and peregrine falcon (*Falco peregrinus*). Loose dogs were also observed by SWCA biologists, which may prey on juvenile tortoises. Common raven densities may be elevated due to the proximity of residences and other anthropogenic activities that provide food sources (e.g. trash dumping, littering). Adult desert tortoises are well defended against many predators by their bony carapace, thick skin and scales, and fossorial habit. Juvenile tortoises are much more vulnerable, and may be taken by a wide range of predators.

Off-road Vehicles and Trash Dumping

Areas of extensive on- and off-road driving were mapped based on the high-resolution imagery collected during the UAV survey, along with piles of debris and trash. Extensive areas of the project have been impacted by off-road vehicle activity, especially in the northern portions of the site (Figure 6).

Approximately 109 acres of the main project area were mapped as moderately to heavily disturbed, including 31 miles of vehicle tracks (excluding maintained city or county roads). Areas of non-linear vehicle tracks were mapped as polygons. Vehicle tracks and unauthorized roads were defined as major (extensively used, wide enough to allow two vehicles to pass), minor (used repeatedly, but typically narrow and sometime meandering), and faint (tire ruts or linear void in vegetation visible, may not have been used repeatedly). Examples of disturbance types are presented in Appendix A. Some areas of diffuse short vehicle tracks were not mapped as disturbance areas in this analysis. Vehicle tracks classified as Faint were mapped near the Class 1 desert tortoise burrow, as well as other burrows (Figures 7 and 8).

Debris piles from trash dumping were also scattered throughout the project site, with dumped tires visible in many locations (Appendix A). The debris piles were most often found along major roads and near residences. At least three abandoned boats were present.

Other

In addition to increased predators such as free-roaming dogs, off-road vehicles and trash dumping, SWCA biologists observed bullet and shell casings from firearms in several areas of the project. Recreational firearms users may shoot tortoises for sport. Spent ammunition also historically contained lead, which is toxic to animals, although state regulations to ban lead ammunition in wildlife hunting took effect in July 2019.

DISCUSSION

With the exception of small areas of dunes and clay pans, the entire project site consists of suitable habitat for desert tortoise as evaluated based on the species' range, vegetation communities, and soil types. However, no live tortoises or carcasses were found during the 2019 protocol-level desert tortoise survey.

Considering the habitat and quantity of burrows (and, to a lesser extent, scat) observed at the project, it is somewhat surprising that no tortoises or tortoise carcasses were observed. One possible explanation is that conditions at the project have deteriorated over time, due to drought, climate change, and/or increased

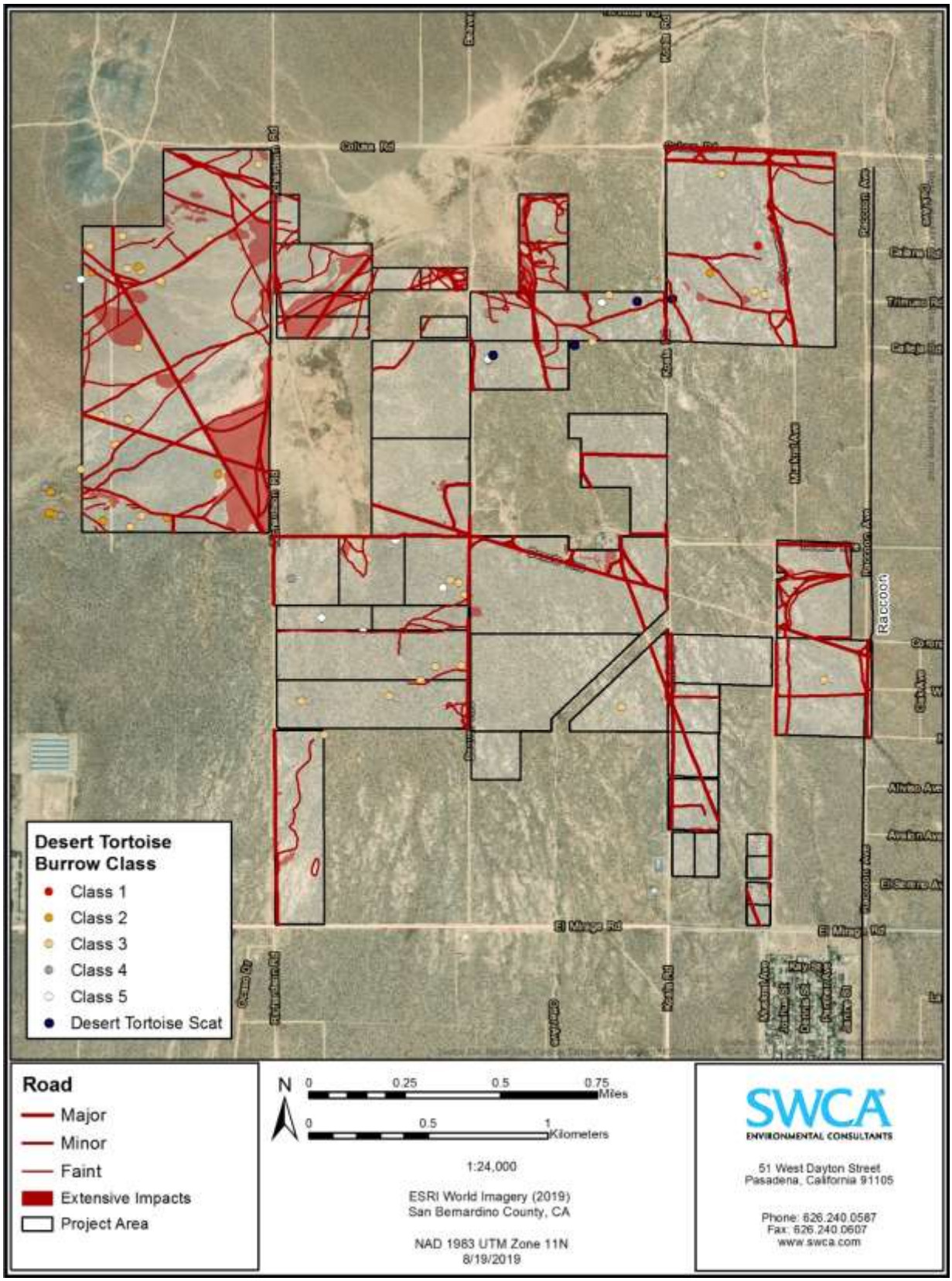

Figure 6. Vehicle routes and impacted areas within the project, and desert tortoise sign recorded during the protocol tortoise survey.

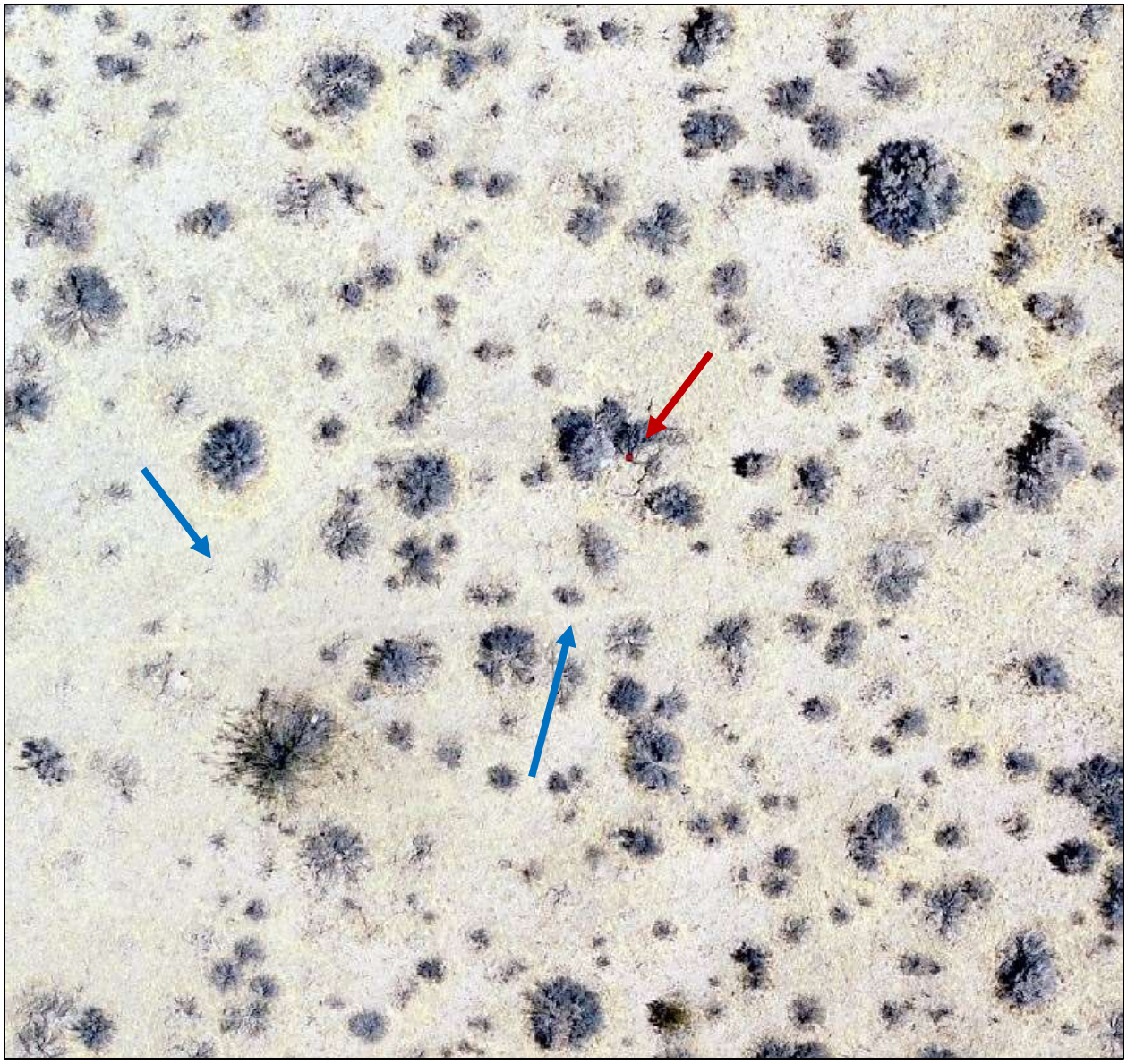

Figure 7. Image from the UAV survey showing the location of the Class 1 desert tortoise burrow (red dot near the red arrow) and two vehicle tracks classified as Faint to the north and south of the burrow, converging in a V-shape west of the burrow (blue arrows).

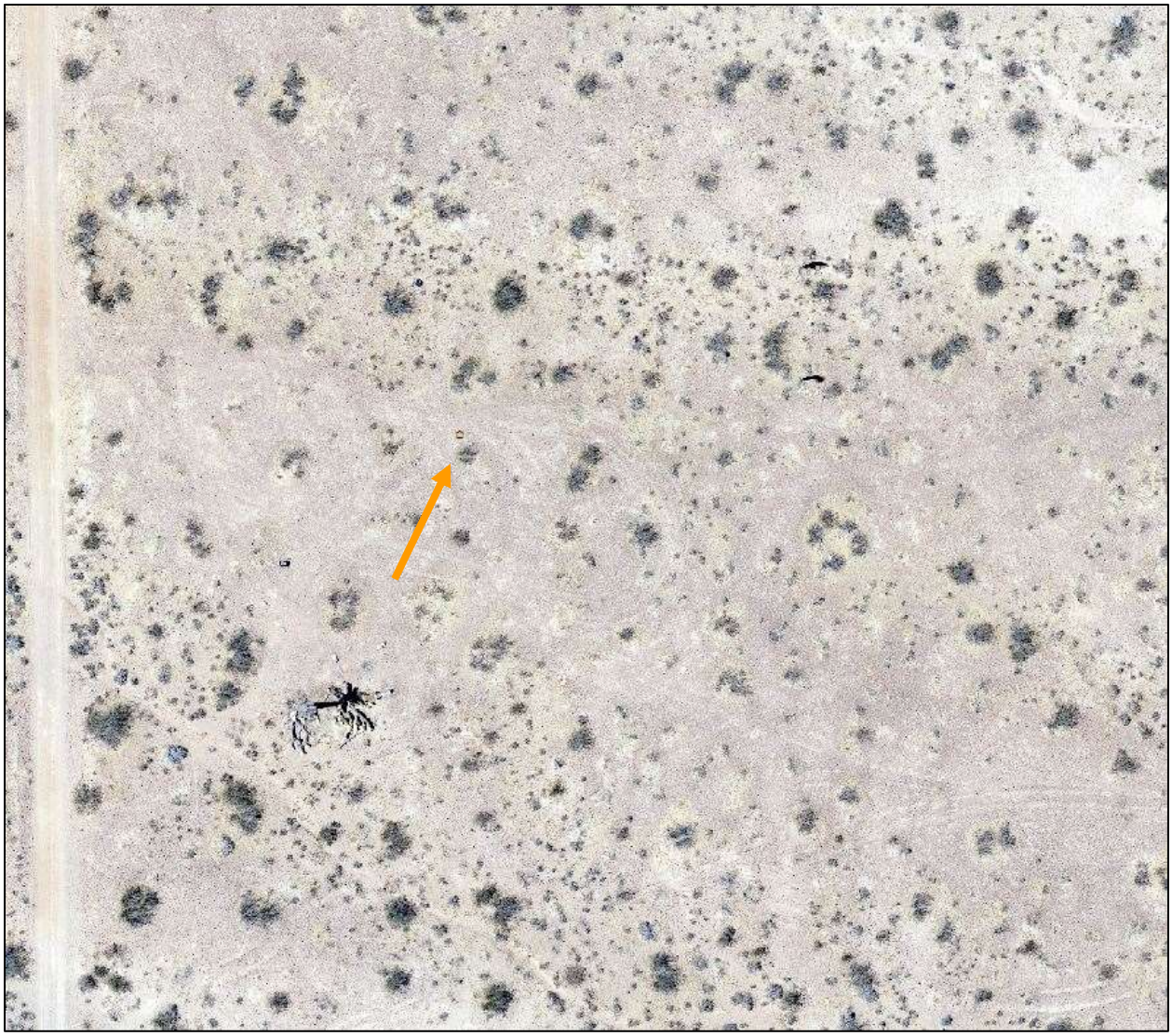

Figure 8. Image from the UAV survey showing the location of a Class 3 desert tortoise burrow (orange dot near the orange arrow) and surrounding off-road vehicle activity and a Minor road at the western edge of the image.

anthropogenic impacts such as off-road vehicle activity. Disturbances mapped at the project, especially off-road vehicle activity, were concentrated in the north and west, roughly coinciding with higher density of desert tortoise sign.

The sum of evidence indicates that habitat suitability for desert tortoise at the project is moderate at best. While vegetation is suitable throughout, and numerous burrows were identified, the lack of confirmed recent desert tortoise presence and the fact that areas impacted by off-road vehicles were mapped near virtually all of the potential tortoise burrows suggest that desert tortoise is likely either present in very low numbers, or is absent. Absent intervention to limit off-road vehicle activity and other anthropogenic threats, habitat suitability at the project is likely to decline.

APPENDIX A

Selected Images of Mapped Disturbed Areas

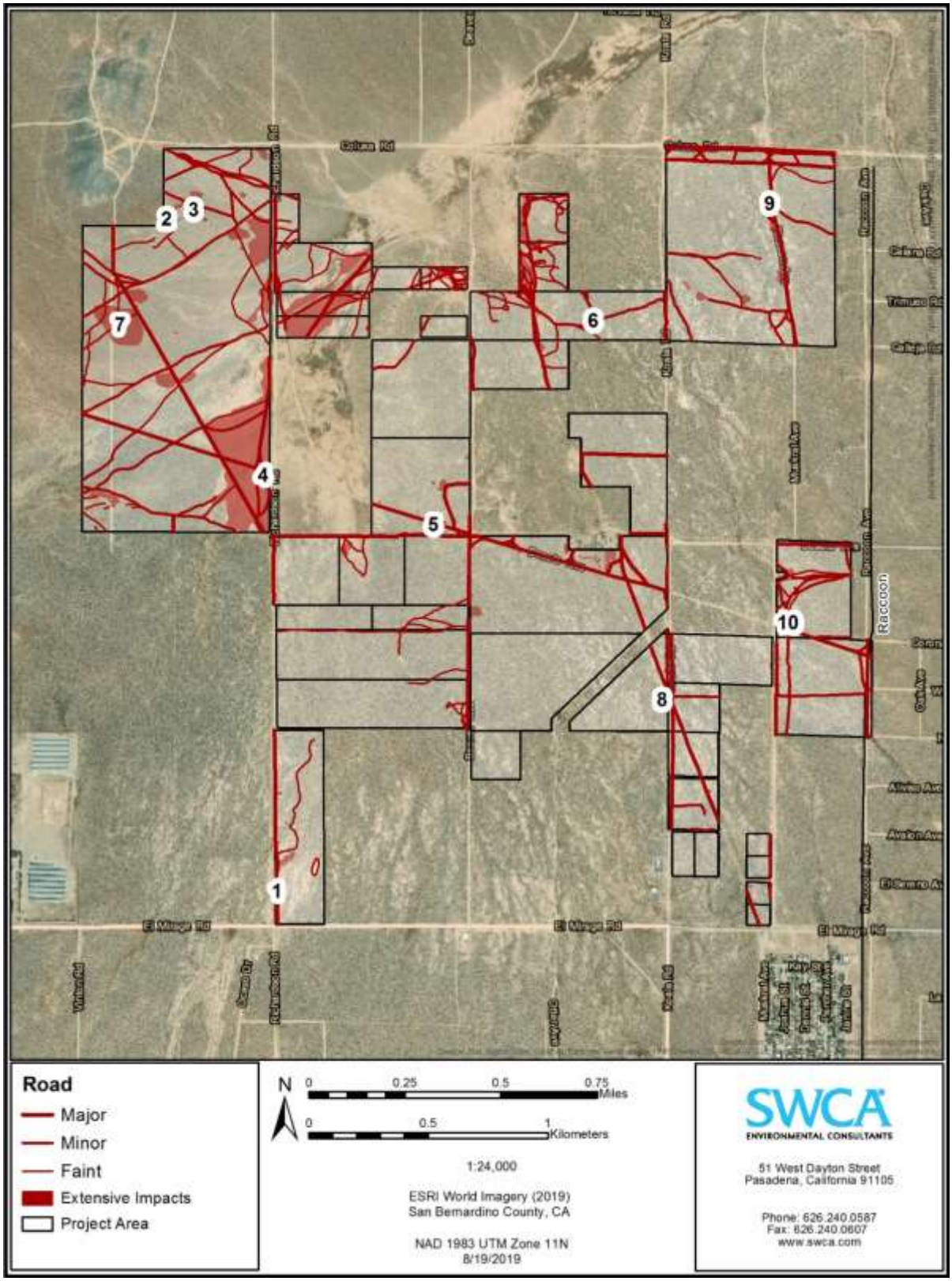

Figure A. Disturbance map of the project, numbers correspond to the location of the images on the following pages.

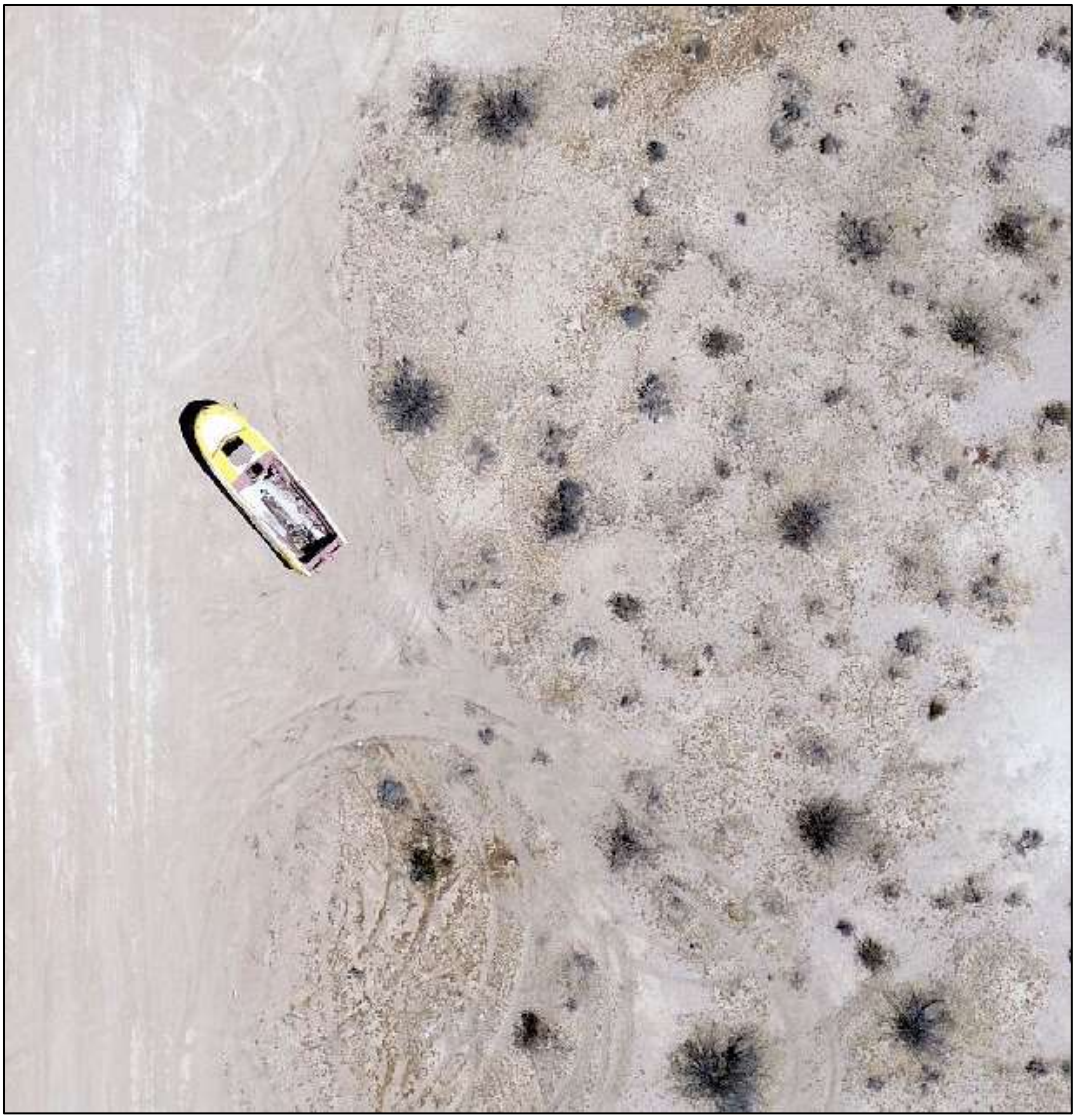

Figure A-1. Example major road with off-road vehicle activity along the right-hand edge, with abandoned debris (boat).



Figure A-2. Moderate off-road vehicle impact area.

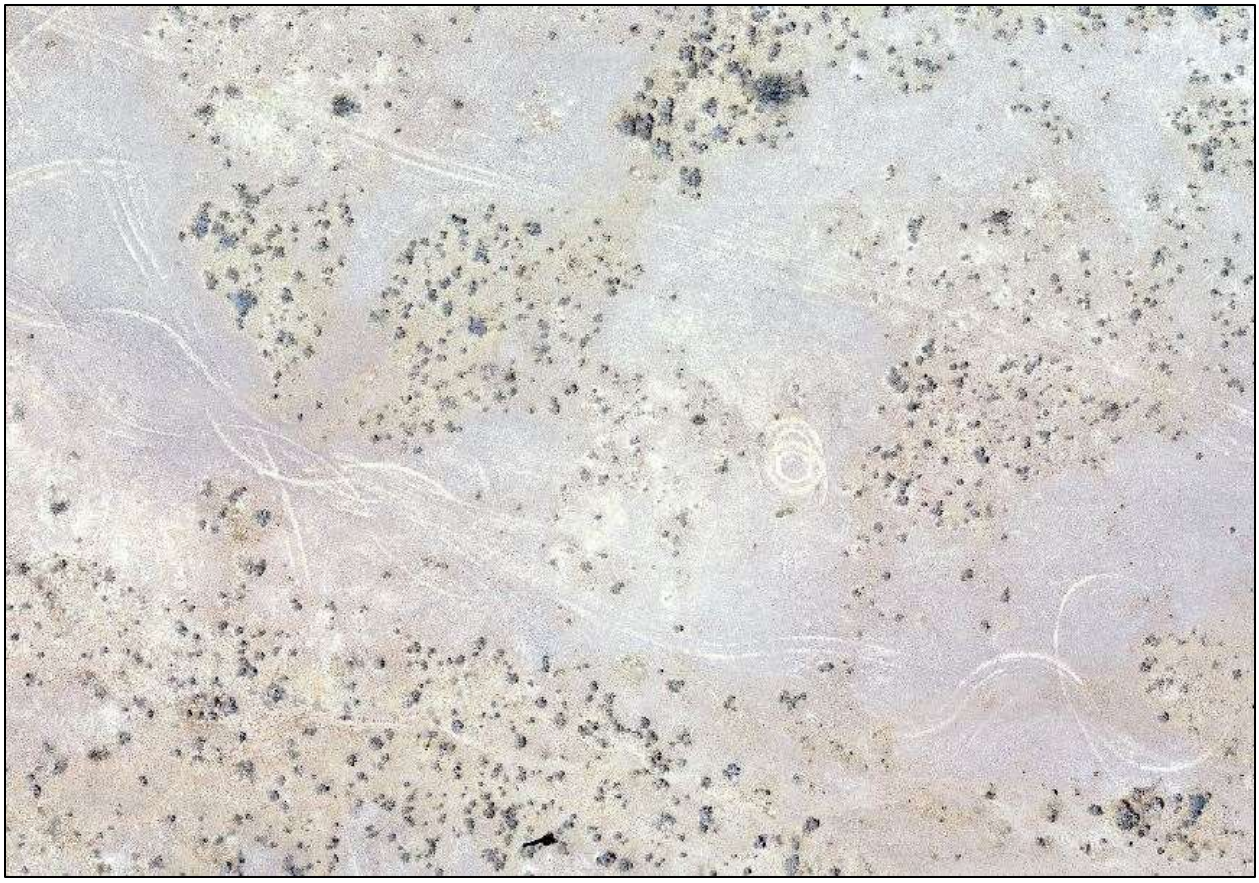

Figure A-3. Off-road vehicle impacts, moderate level.



Figure A-4. Off-road vehicle activity, high level of impact.



Figure A-5. Trash dumping along a major road.



Figure A-6. Dumped trash along a minor road.



Figure A-7a. Major and minor roads, off-road vehicle impacts are barely visible at this scale.



Figure A-7b. Close-up view, high levels of off-road vehicle impacts are readily visible at this scale.



Figure A-8. Major and minor roads, and a faint road crossing east-west through the image.



Figure A-9. Major road with off-road vehicle activity and dumped trash.

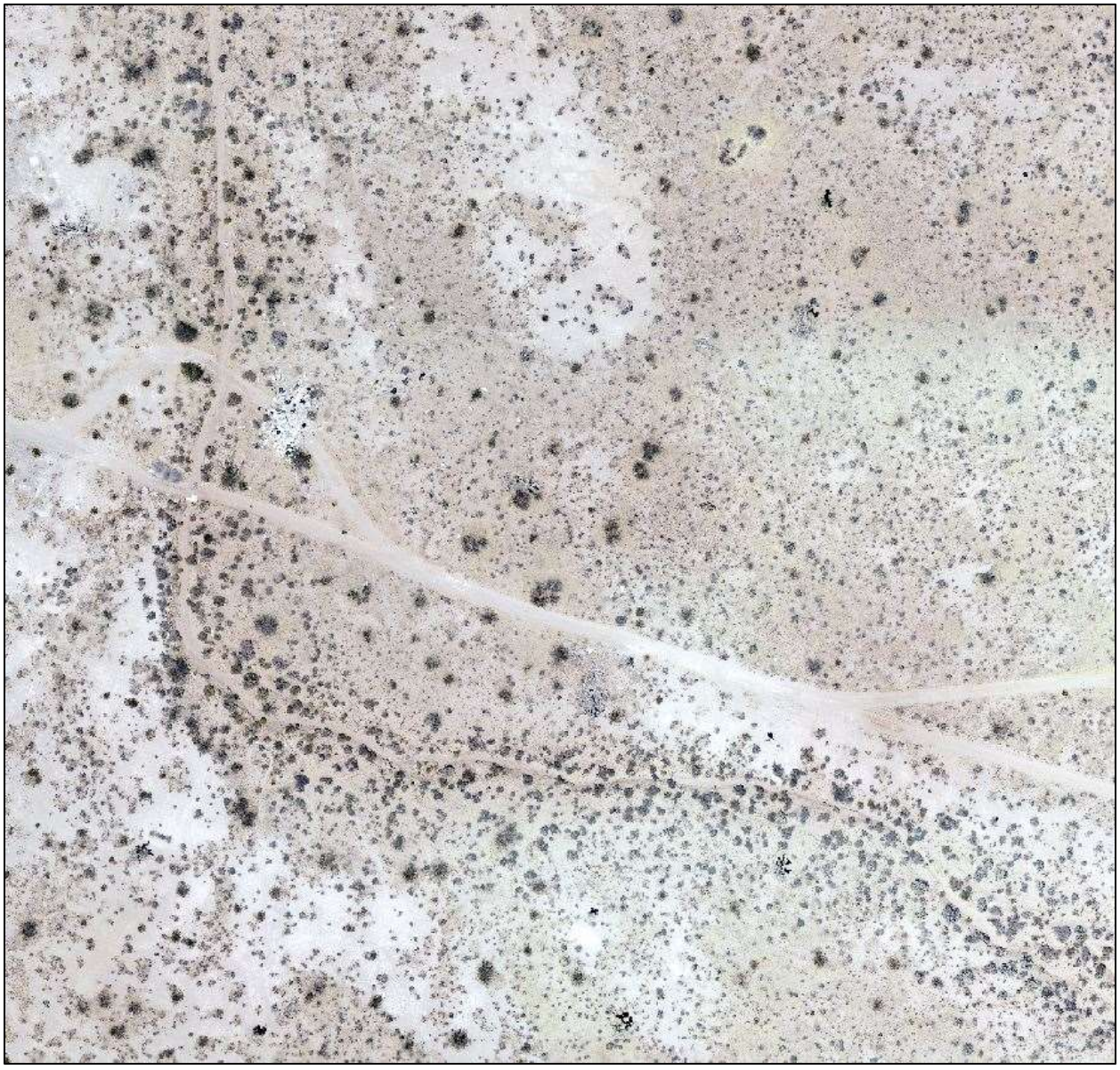

Figure A-10. Minor roads and dumped trash.

Appendix B BIOLOGICAL RESOURCES

B.8 GEN TIE OPTION C BIO SURVEYS

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

51 West Dayton Street
Pasadena, California 91105
Tel 626.240.0587 Fax 626.240.0607
www.swca.com

TECHNICAL MEMORANDUM

To: Theresa Carroll
sPower Sustainable Power Group
5000 East Spring Street, Suite 130
Long Beach, CA 90815

From: Pauline Roberts, Ph.D, Senior Natural Resources Project Manager

Date: July 17, 2019

Re: **Biological Survey of Gen-tie Option C for the Baldy Mesa Solar Project, June 24, 2019 / SWCA Project No. 046173.01**

INTRODUCTION

This memorandum describes the results of a supplemental biological survey conducted on June 24, 2019 by SWCA Environmental Consultants (SWCA) for the Baldy Mesa Solar Project (project), located in the northwestern portion of the City of Adelanto, San Bernardino County, California (Figures 1–3). The proposed project is a utility-scale solar photovoltaic (PV) project sited on approximately 1,197 acres of private land and two generation-tie line options (gen-tie options A and B). This supplemental survey was conducted after the addition of a third gen-tie option for the project (gen-tie option C) and focused on documenting biological resources in this newly identified area. Prior to the survey described here, habitat assessments and focused surveys were conducted on the rest of the project site and gen-tie options for desert tortoise (*Gopherus agassizii*),[1] Mohave ground squirrel (*Xerospermophilus mohavensis*),[2] rare plants,[3] other special status wildlife, and nesting birds.

The goals of the June 24, 2019 survey were to identify and document the following along gen-tie option C:

- Habitat conditions;
- All tortoises and signs, such as carcasses, burrows, and scat;
- Other special status species; and
- Active and inactive bird nests.

In addition, the biologists revisited the known Class 1 desert tortoise burrow (see Methods for classifications), which was initially found in April 2019 (Figure 4) in the main project area, to determine whether there were any signs of desert tortoise activity since April.

[1] SWCA Environmental Consultants. 2019. *Desert Tortoise Survey for the Baldy Mesa Solar Project*. Pasadena, California.

[2] ENVIRA. 2019. *Baldy Mesa Solar Project Mohave Ground Squirrel Habitat Survey Letter of Findings.* Ramona, California.

[3] SWCA Environmental Consultants. 2019. *Rare Plant Survey for the Baldy Mesa Solar Project, Spring 2019.* Pasadena, California.

Special Status Species

Special status species were recorded as they were encountered. These included species that occur throughout the Mojave Desert such as desert tortoise, desert kit fox (*Vulpes macrotis arsipus*), burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), and loggerhead shrike (*Lanius ludovicianus*). Burrowing owl, American badger, and loggerhead shrike are all listed as Species of Special Concern by the California Department of Fish and Wildlife (CDFW); desert kit fox is protected from take as a fur-bearing mammal pursuant to Section 460 of the California Fish and Game Code. Burrowing owl, American badger, loggerhead shrike, and desert kit fox are not listed under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). Mohave ground squirrel (*Xerospermophilus mohavensis*), which is listed as threatened under CESA, also has the potential to occur at the project.

Desert Tortoise

The desert tortoise is a large, long-lived herbivorous reptile that occurs within the Mojave and Sonoran deserts in southern California, Nevada, Arizona, and the southwestern tip of Utah. Desert tortoises spend much of their time underground in burrows, even during seasons that include aboveground activity. Tortoises typically emerge from wintering burrows in early spring and remain active until fall. During hot summer weather they spend significant periods inactive underground, during which they are able to reduce metabolism and water loss, and consume very little food. While this supplemental survey occurred outside of the most active seasons for desert tortoise (April–May and September–October), tortoises can be active at any time of year when conditions are suitable, and signs such as carcasses, eggshell fragments, scat, and burrows can be found throughout the year. Desert tortoise is listed as threatened pursuant to the ESA and CESA.

Nesting Birds

The survey took place during nesting bird season (typically February 1–August 31 in Southern California). Active and inactive nests encountered were documented.

METHODS

SWCA biologists Ryan Myers and Par Singhaseni conducted the survey for the gen-tie option C route on June 24, 2019. Conditions were warm and sunny, with temperatures ranging from 79 to 93 degrees Fahrenheit, with wind speeds from approximately 0 to 5 miles per hour. The biologists walked two transects spaced 10 meters apart along each side of the gen-tie route. In addition, the biologists used vehicles (driven at a walking pace) to search areas considered unsuitable for desert tortoise and other special status wildlife. Unsuitable habitat included areas previously graded and devoid of vegetation adjacent to paved roadways, areas that were heavily disturbed by other means, and residential properties.

During the survey, biologists searched for live tortoises and signs of tortoise presence. Signs include scat, carcasses, burrows, drinking depressions, courtship rings, tracks, evidence of tortoise herbivory, or eggshell fragments. When tortoise sign was found, its approximate age was determined based on the condition of the sign.

Tortoise burrows were identified by the distinctive half-moon shape of the entrance and the walls of the tunnel. When a potential tortoise burrow was encountered, a mirror or bright flashlight was used to view the interior of the burrow. Each burrow was assigned a condition class as described in the U.S. Fish and

Wildlife Service (USFWS) *Desert Tortoise (Mojave Population) Field Manual*.[4] The condition classifications are as follows:

- Class 1: currently active, with desert tortoise or recent desert tortoise sign
- Class 2: good condition, definitely desert tortoise; no evidence of recent use
- Class 3: deteriorated condition which includes collapsed burrows; definitely desert tortoise
- Class 4: good condition; possibly desert tortoise
- Class 5: deteriorated condition which includes collapsed burrows; possibly desert tortoise

In addition to burrows excavated by desert tortoise, tortoises are also known to seek shelter under shrubs, within caliche caves, and within burrows excavated by other species. Such burrows may be excavated by burrowing owl, desert kit fox, coyote (*Canis latrans*), or American badger. Each non-tortoise burrow or den was classified based on the shape of the entrance, size, and presence of sign, such as scat, claw mark scrapes, owl pellets, whitewash, or prey remains. The biologists also recorded the occupancy status of each burrow or den. The presence of extensive spiderwebs, debris, or partial collapse was taken to indicate that the burrow/den was likely unoccupied (although desert tortoise may remain underground for extended periods).

For bird nests, the biologists used binoculars to view all nests on shrubs, trees, and transmission lines to determine nesting activity. All burrow, den, and nest locations were recorded using a global positioning system (GPS) unit. Lastly, biologists documented the faunal diversity observed within the project site, and incidental floral observations.

RESULTS

Habitat Assessment and Vegetation

Gen-tie option C runs parallel to existing paved and unpaved roads, including El Mirage Road, Raccoon Avenue, Air Expressway, and Delicious Street. Additional unpaved access roads were observed adjacent to the gen-tie route (Photo 1). The areas surrounding the entire gen-tie route can generally be classified as moderately to heavily disturbed (Figures 5–7). Vegetation communities adjacent to the survey area consisted of Joshua Tree Woodland (*Yucca brevifolia* Woodland Alliance), Creosote Bush – White Bursage Scrub (*Larrea tridentata – Ambrosia dumosa* Shrubland Alliance) and one previously unobserved community: Red Brome or Mediterranean Grass Grasslands (*Bromus rubens - Schismus* [*arabicus*, *barbatus*] Herbaceous Semi-Natural Alliance) (Photo 2 and 3).[5] Other areas appear to have been previously paved (Photo 4) and building foundations were present.

Several common species of wildlife were observed including Great Basin whiptail (*Aspidoscelis tigris tigris*), common raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), sagebrush sparrow (*Artemisiospiza nevadensis*), mourning dove (*Zenaida macroura*), Eurasian collared-dove (*Streptopelia decaocto*), house sparrow (*Passer domesticus*), house finch (*Haemorhous mexicanus*), cactus wren (*Campylorhynchus brunneicapillus*), northern mockingbird (*Mimus polyglottos*), and white-tailed antelope squirrel (*Ammospermophilus leucurus*).

[4] U.S. Fish and Wildlife Service. 2009. *Desert Tortoise (Mojave Population) Field Manual:* (Gopherus agassizii). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

[5] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation, Second Edition*. California Native Plant Society, Sacramento, California.

Desert Tortoise

No live tortoises, carcasses, or any signs of tortoises were found during the survey. Although temperature conditions were within range of tortoise activity above ground (below 95 degrees Fahrenheit), the timing of the survey did not coincide with the peak spring activity and USFWS's spring survey season, which ended on May 31.

The majority of the gen-tie route was found to be unsuitable habitat for desert tortoise. The portions along El Mirage Road, Raccoon Avenue, and Delicious Street had been previously developed, graded and/or were devoid of vegetation. Areas adjacent to the gen-tie route had existing unpaved access roads, evidence of off-road vehicle use away from existing roads (Photo 5), and illegal trash dumping. The remaining portion of the gen-tie route along Air Expressway was also considered low quality due to proximity of a high-speed roadway and residences (Photo 6).

Special Status Species

No signs of desert kit fox, burrowing owl, or American badger were found. No loggerhead shrikes were observed. A peregrine falcon (*Falco peregrinus*) was observed perched on a transmission tower alongside Raccoon Avenue (Figure 8 and Photo 7). The peregrine falcon was eating a small songbird while being mobbed by a northern mockingbird.

Nesting Birds and Incidental Wildlife

One inactive raptor or raven nest was found in a transmission tower during the survey (Figure 9). The nest was large, at least 24 inches in diameter, but had no other features that would allow for further identification.

Class 1 Desert Tortoise Burrow

The Class 1 burrow, located in the northeastern portion of the project was revisited during the survey (see Figure 4 and Photo 8). The burrow showed signs of disturbance, specifically the shifting of vegetative material at the entrance since the previous site visit in April 2019. However, the biologists could not determine which species caused the disturbance. There were no new tortoise scat, tracks, or evidence of herbivory (i.e. bite marks) found near the burrow. In addition, coyote scat was found at the entrance of the burrow (Photo 9). The scat had been deposited since the April 2019 survey, and its coloration and moisture content were consistent with being recently deposited. No tortoises or other wildlife were visible inside the burrow.

DISCUSSION

Habitat along gen-tie option C is unsuitable for desert tortoises and other special status species due to the heavy disturbance and proximity to roads and residences. No live tortoises, carcasses, or other signs of tortoises were found during the survey. Conditions during the survey were at the appropriate temperatures and conditions for detecting desert tortoise; however, the timing of the survey occurred outside the recommended period for spring and fall surveys. Based on the level of habitat degradation, proximity to developed habitat and roads, and the lack of burrows and other signs, it is highly unlikely that desert tortoises occur along gen-tie option C.

Evidence of anthropogenic disturbance is present throughout the gen-tie route, primarily in the form of development, off-road vehicle use, and illegal dumping. Off-road vehicle use can alter the native vegetation and soil composition leading to a decline in perennial plant cover and annual food plant availability. Habitats along the entire length of Raccoon Road were extensively disturbed. Based on that

disturbance, and the housing developments in the area, the habitats surrounding gen-tie option C along Raccoon Road are not suitable for desert tortoise, and SWCA does not recommend conducting a protocol presence/absence survey. The remaining portions of gen-tie option C, along El Mirage Road and Air Expressway are also heavily disturbed and at best marginally suitable for desert tortoise. A protocol survey was conducted along these sections in April-May 2019, and no signs of desert tortoise were found.[6]

The sole special status species observed during the survey, peregrine falcon, is sometimes found in deserts, but is uncommon in such arid habitats. Its close relative the prairie falcon (*Falco mexicanus*) is more often encountered in the desert. Peregrine falcons are listed by the California Department of Fish and Wildlife as a fully protected species. They generally nest on ledges formed by cliffs, buildings, large electrical transmission towers, and nests built by other bird species.[7] There are no California Natural Diversity Database (CNDDB)[8] records of this species nesting in the region and the nearest eBird[9] observations are approximately 10 miles southeast of the project near the City of Victorville. It is likely that the individual observed was a transient and not nesting within or adjacent to the project .

[6] SWCA Environmental Consultants. 2019. *Desert Tortoise Survey for the Baldy Mesa Solar Project*. Pasadena, California.

[7] Cornell Lab of Ornithology. 2019. Birds of North America. Available at: https://birdsna-org.bnaproxy.birds.cornell.edu/Species-Account/bna/species/perfal/introduction. Accessed June 2019.

[8] California Department of Fish and Wildlife (CDFW). 2019. RAREFIND database ver.5.2.14. Electronic database managed by the Natural Diversity Data Base, Wildlife Data and Habitat Analysis Branch, California Department of Fish and Wildlife. Sacramento, California. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed June 2019.

[9] eBird. 2019. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available at: http://www.ebird.org. Accessed June 2019.

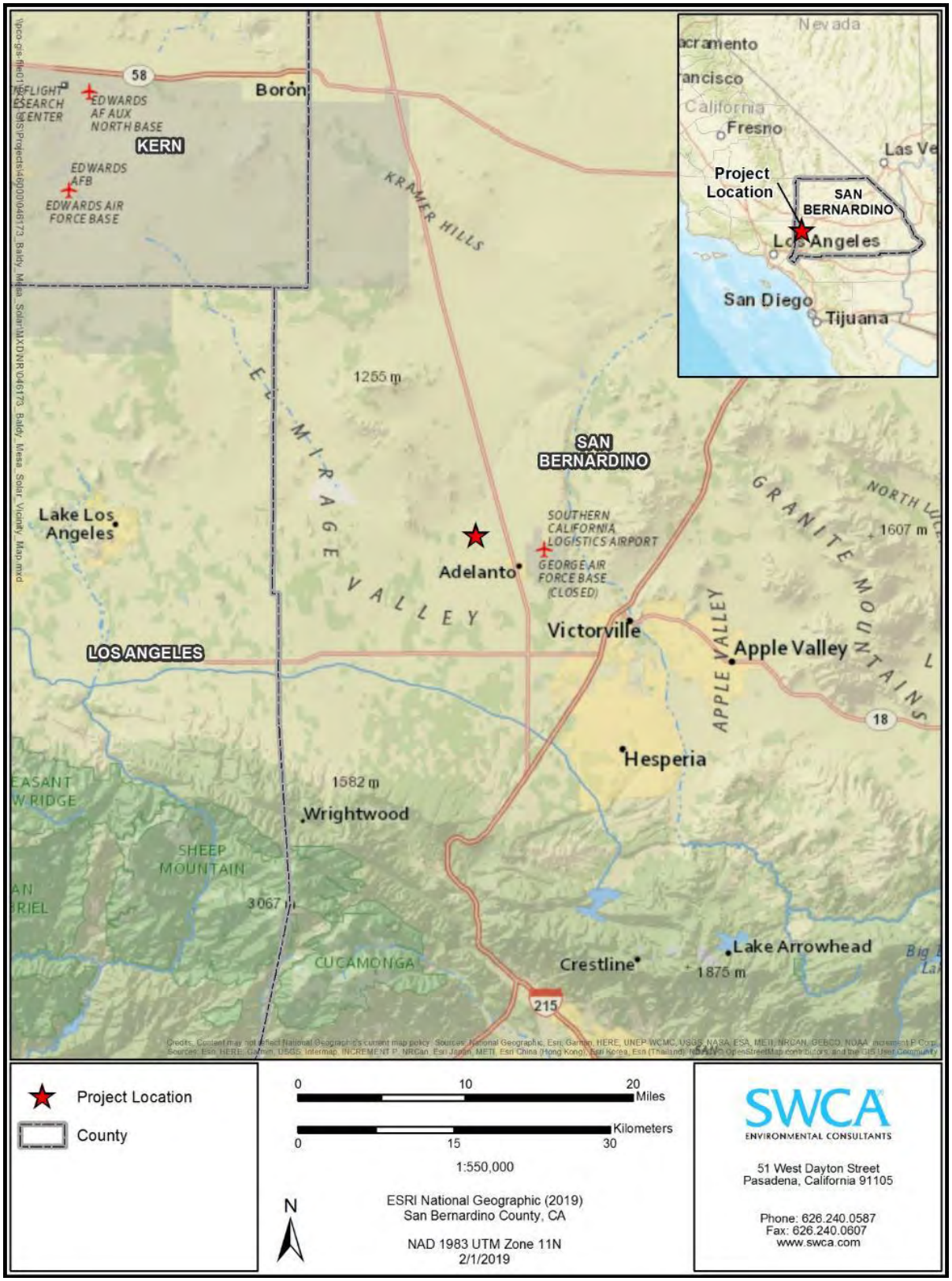

Figure 1. Regional vicinity map.

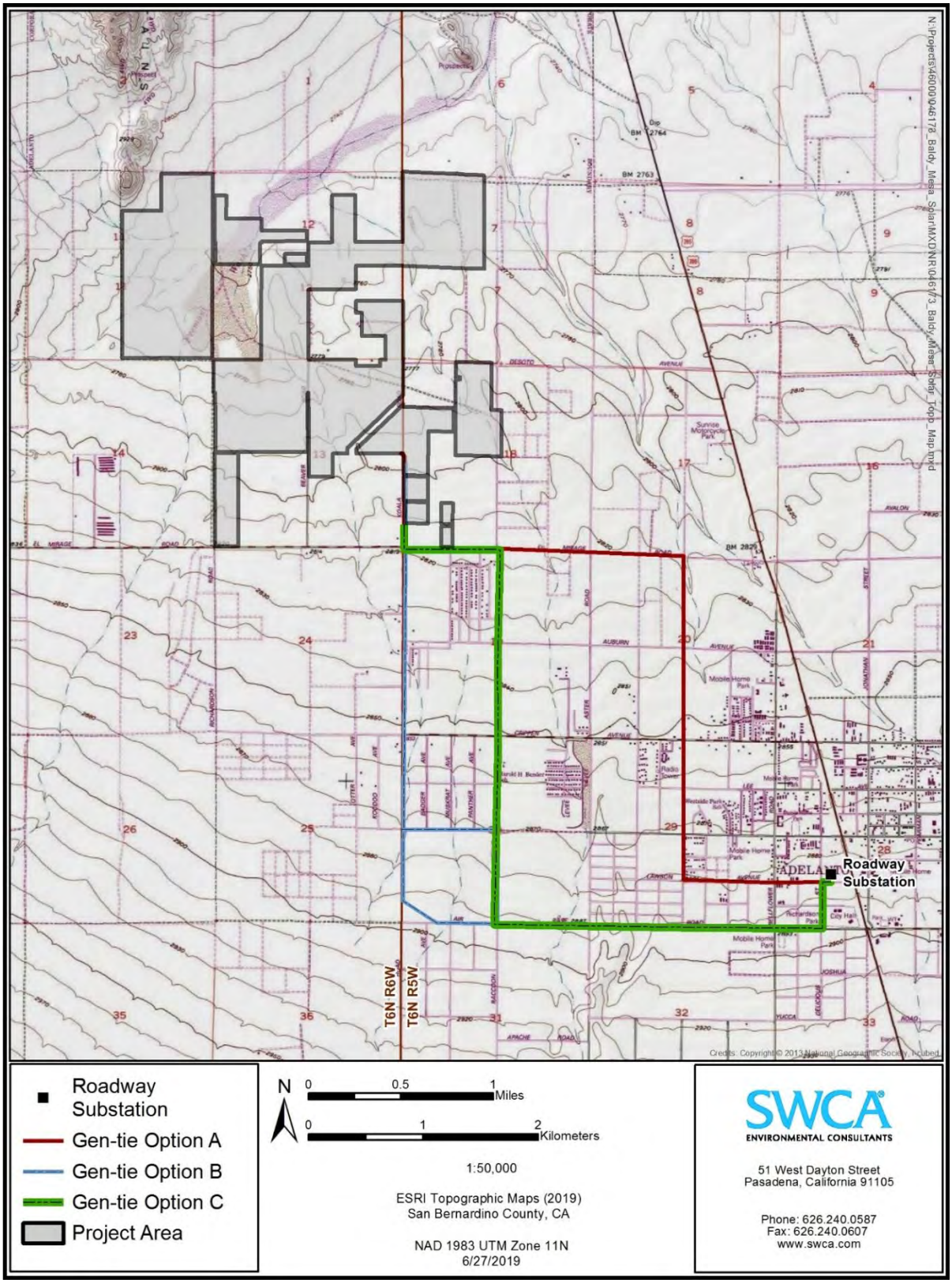

Figure 2. Project location with U.S. Geological Survey topographic quadrangle background.

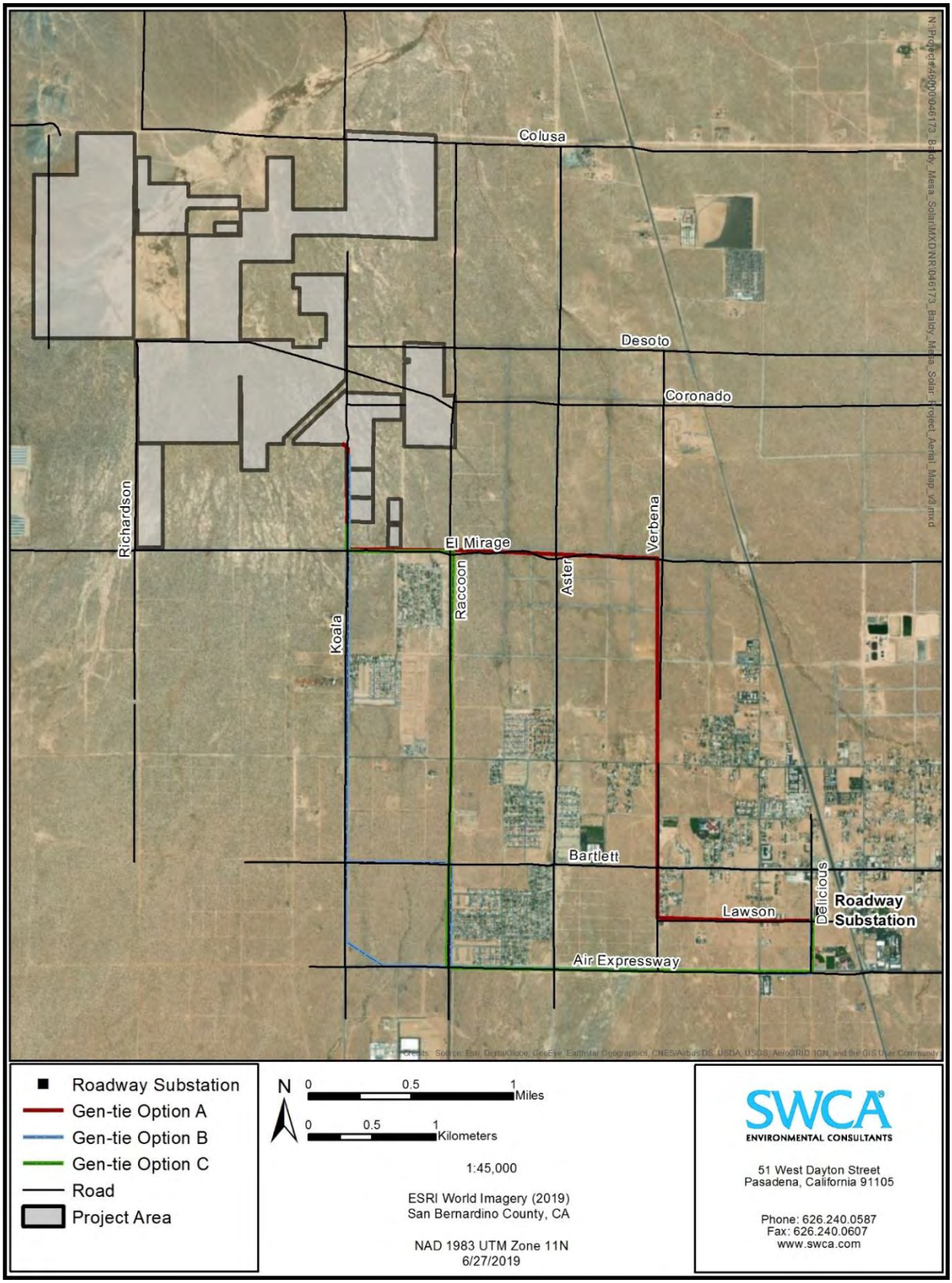

Figure 3. Project location with aerial background.

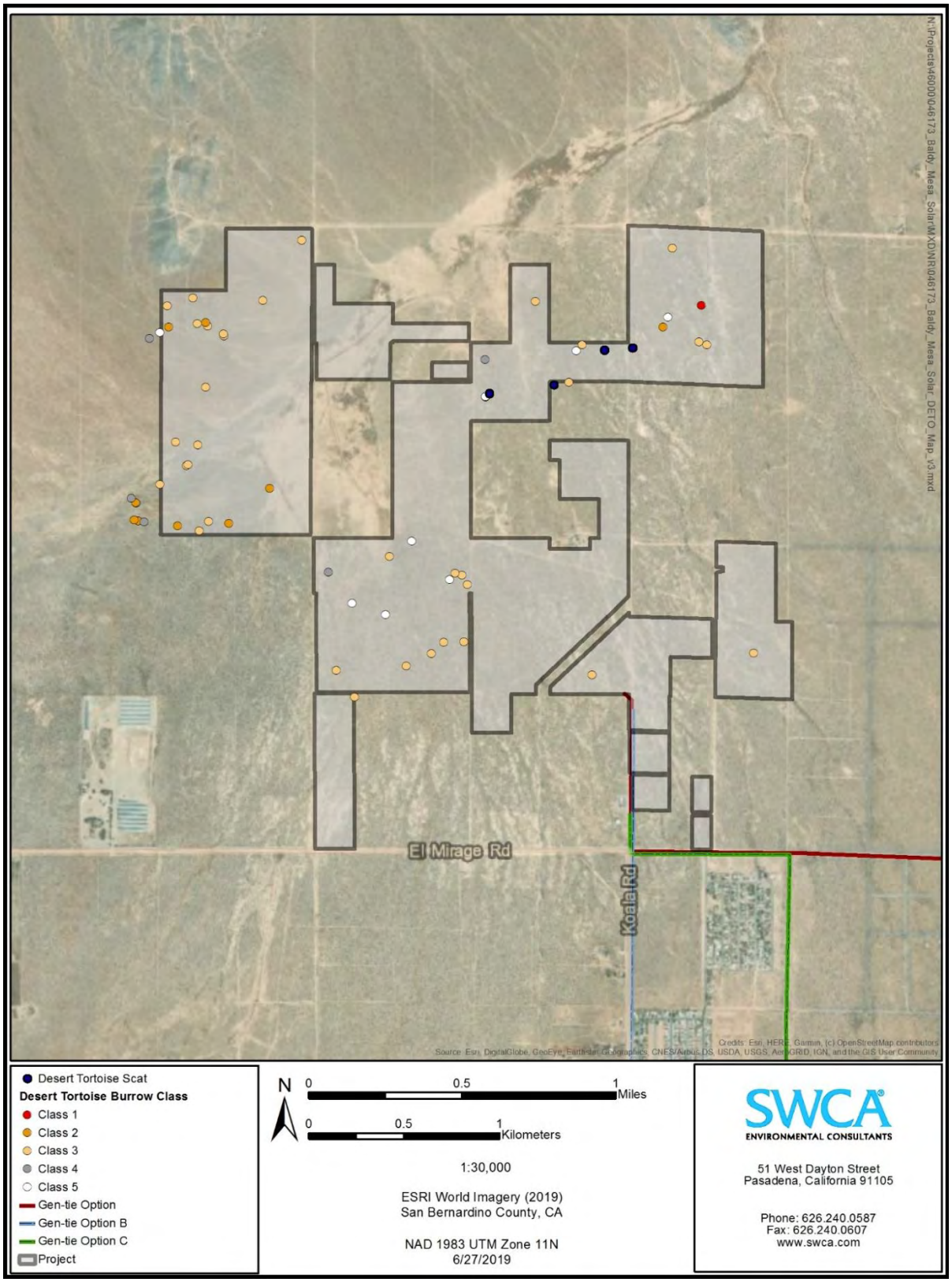

Figure 4. Desert tortoise burrows and scat previously recorded at the project. The Class 1 burrow was revisited during the June 24, 2019 survey described here.

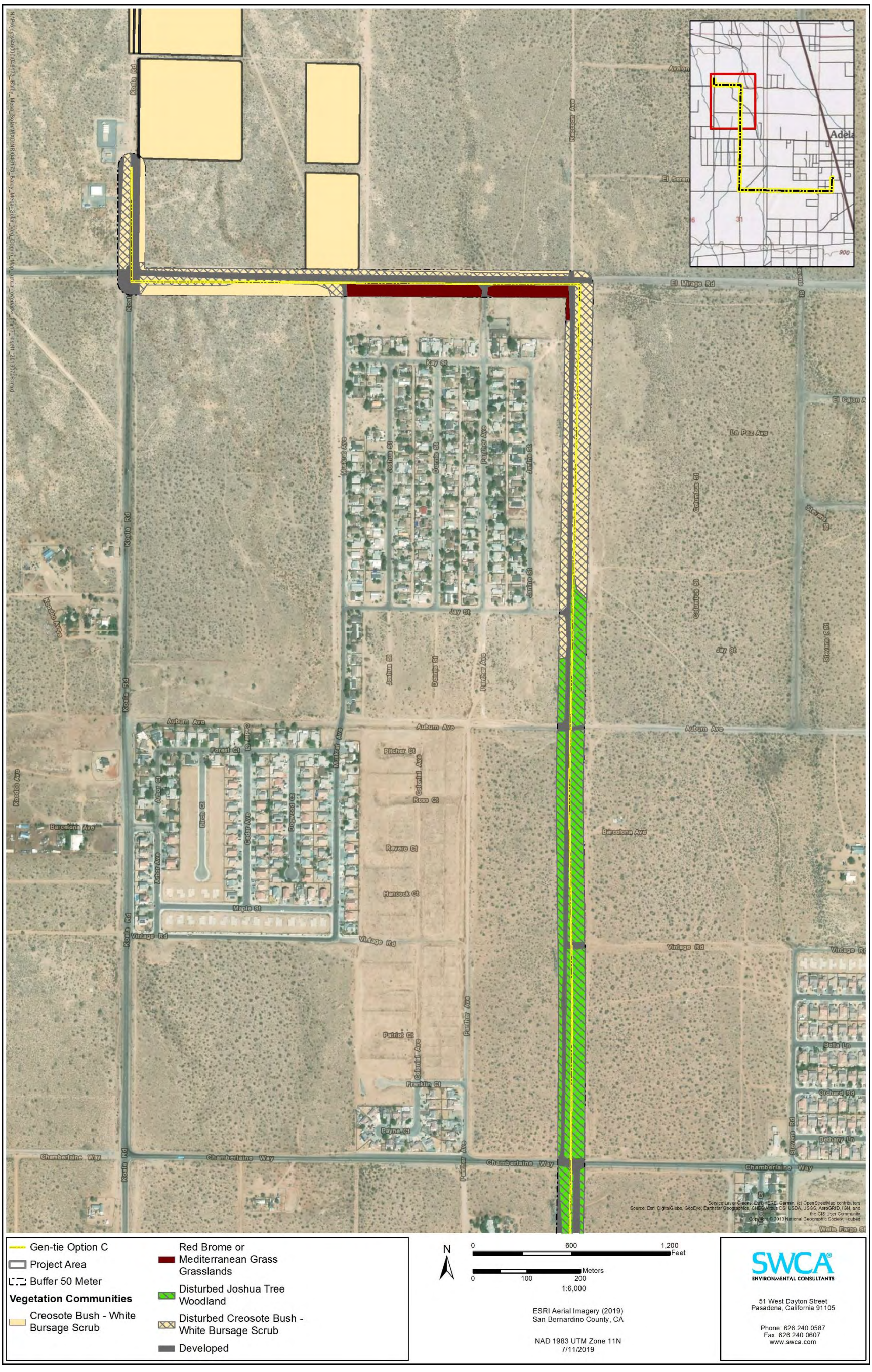

Figure 5. Vegetation communities along El Mirage Road and Raccoon Avenue.

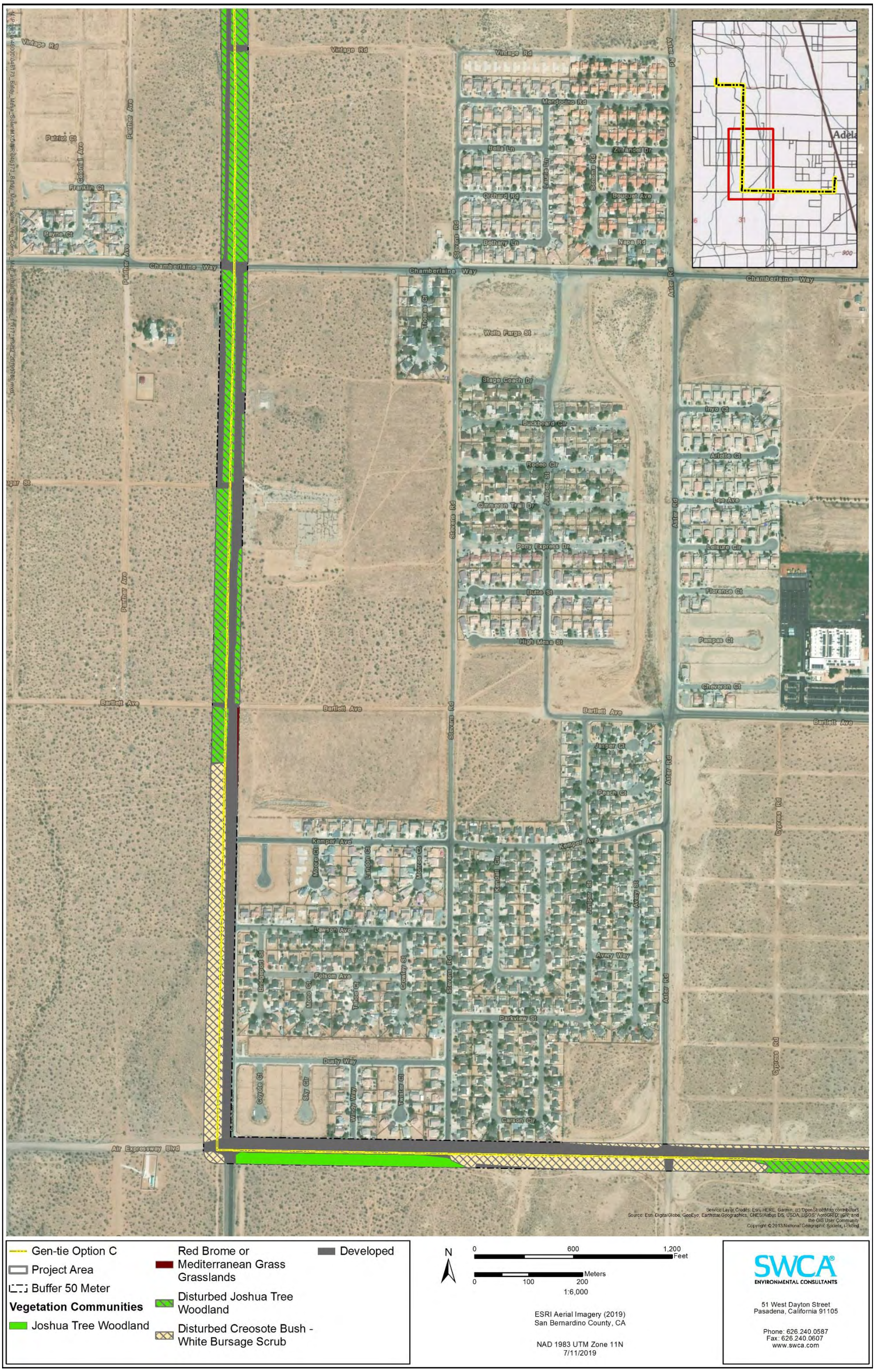

Figure 6. Vegetation communities along Raccoon Avenue and Air Expressway.

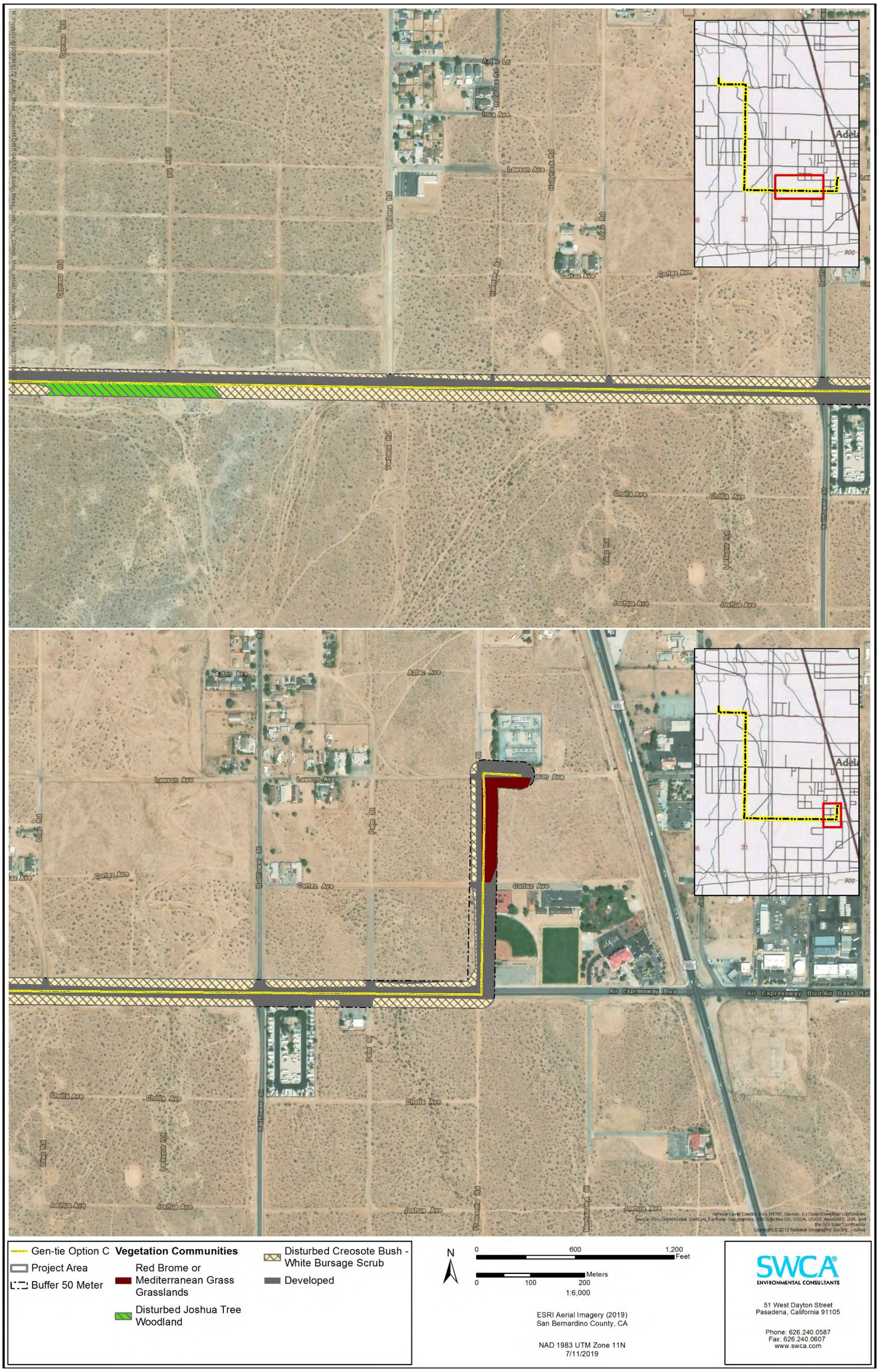

Figure 7. Vegetation communities along Air Expressway (top) and Air Expressway/Delicious Street (bottom).

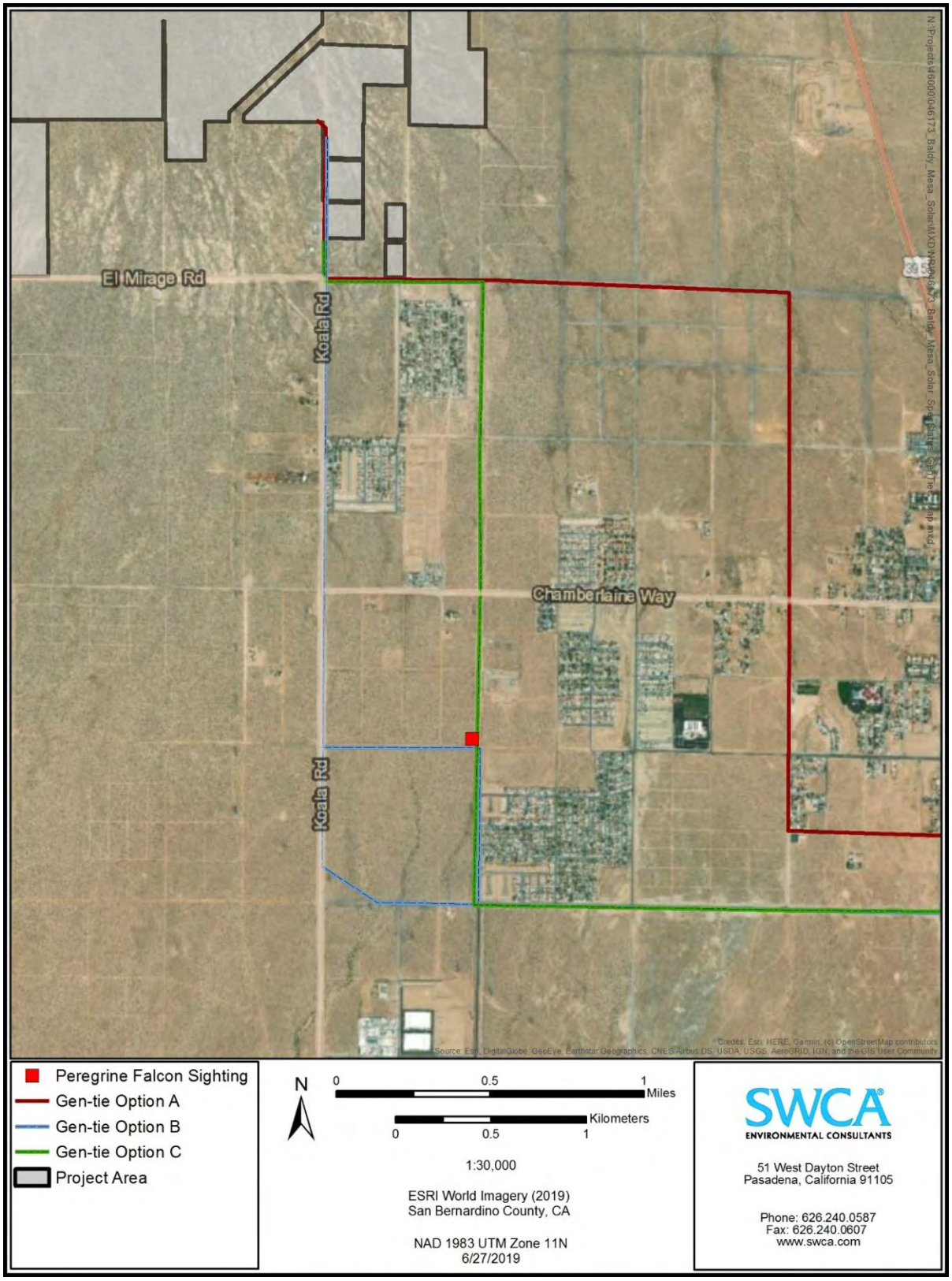

Figure 8. Special status species (peregrine falcon) observation.

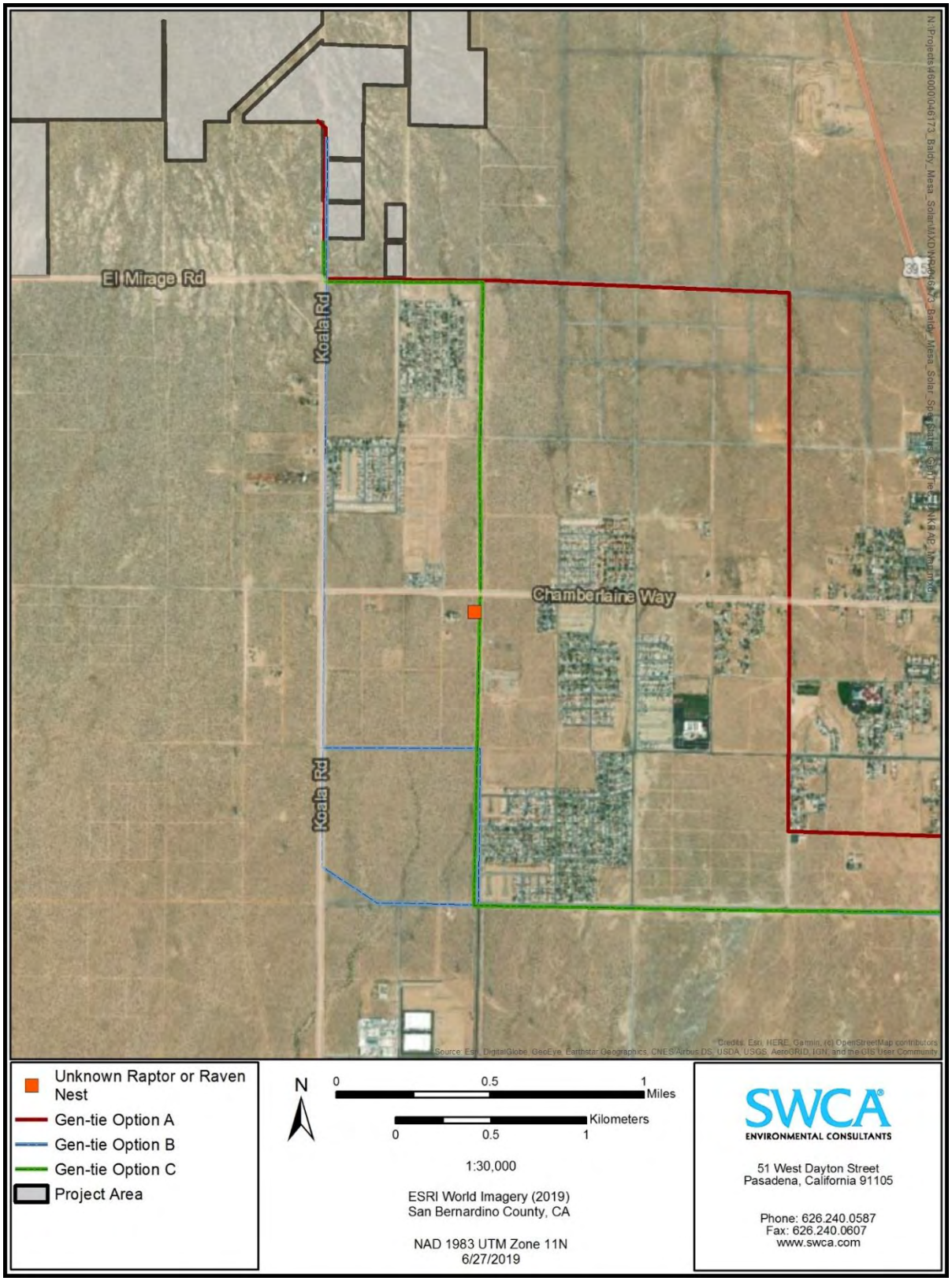

Figure 9. Location of large stick nest on transmission tower, likely of a raptor or common raven.



Photo 1. Access road parallel to Raccoon Avenue. Photographed on June 24, 2019.



Photo 2. Joshua Tree Woodland adjacent to the gen-tie route along Raccoon Avenue. Photographed on June 24, 2019.



Photo 3. Example of Creosote Bush – White Bursage Scrub, located along Raccoon Avenue. Photographed on June 24, 2019.



Photo 4. Developed habitat along Raccoon Avenue Photographed on June 24, 2019.



Photo 5. Off-road vehicle tracks. Photographed on June 24, 2019.



Photo 6. Existing paved roads and residences located at the intersection of Raccoon Avenue and Air Expressway along gen-tie route option C. Photographed on June 24, 2019.



Photo 7. A peregrine falcon perched on a transmission tower located along Raccoon Avenue. Photographed on June 24, 2019.



Photo 8. Class 1 desert tortoise burrow located in the northeastern portion of the project, first identified in April 2019. Photographed on June 24, 2019.



Photo 9. Coyote scat located outside of the Class 1 desert tortoise burrow. Photographed on June 24, 2019.

Appendix C CULTURAL RESOURCES TECHNICAL REPORT (CONFIDENTIAL – AVAILABLE ON REQUEST)



Appendix D PRELIMINARY DRAINAGE REPORT

PRELIMINARY DRAINAGE REPORT

Baldy Mesa Solar

San Bernardino County, California

PREPARED FOR

SPower Development Company
5000 East Spring Street, Suite 130
Long Beach, CA 90815
Contact: Tanya Martinez

PREPARED BY

Kimley»Horn

765 The City Drive, Suite 200
Orange, CA 92868
May 2019



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1 INTRODUCTION

1.1 PROJECT BACKGROUND

Kimley-Horn was retained by SPower to conduct a hydrologic analysis for the proposed solar photovoltaic (PV) generation facility, Baldy Mesa Solar, located in San Bernardino County (SBC), California (Figure 1). The purpose of this report is to provide the results of the off-site drainage analysis to evaluate the potential impacts to the site, and provide recommendations, as necessary, associated with storm water runoff for the 100-year design storm event.

The proposed project consists of the installation of a solar power generation facility. The PV solar modules will be mounted above-grade on an array of single-axis tracking systems. These arrays, along with central inverters and other project equipment, will be enclosed by a chain link perimeter fence. The project will include perimeter and internal access roads. Seven entrances scattered throughout the project are proposed to provide access to the site.

1.2 SITE DESCRIPTION

The site is located in the City of Adelanto, San Bernardino County, at Latitude 34°36'33" N and Longitude 117°27'15" W. The proposed site spans approximately 1210 acres, located in Sections 11, 12, and 13 of Township 6N, Range 6W and Sections 7 and 18 of Township 6N, Range 5W. It is bordered by Colusa Road to the North, Raccoon Avenue to the East, El Mirage Road to the South, and a projection of Vinton Road to the West. The Fremont Wash runs through portions of the site, specifically in the north-east corner.

The site lies within a Federal Emergency Management Agency (FEMA) Special Hazard Flood Zone D and Zone X as depicted on Flood Insurance Rate Map (FIRM) panel 06071C5780H (Appendix B). FEMA Flood Zone D is defined as areas with possible but undetermined flood hazards; therefore, a FEMA flood analysis has not been conducted for the project area. FEMA Flood Zone X is defined as other flood areas which includes: areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

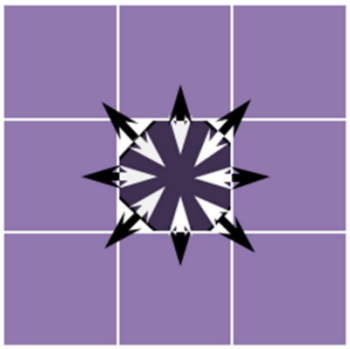
2 METHODOLOGY

2.1 MODEL DRAINAGE AREA, GRID SIZE, AND BOUNDARY CONDITIONS

As illustrated in Figure 1, the project is located just outside the El Mirage dry lake bed. The drainage model extents extend south to a set of hills preceding the San Gabriel Mountains and North into the hill above the El Mirage Dry Lake Bed. The western and eastern extents of the model boundary were delineated by reviewing topographic data for signs of small ridgelines within the alluvial plain. An alluvial fan is a triangle-shaped deposit of alluvium, which consists of gravel, sand, and smaller materials deposited by flowing water. Flooding occurring on the surface of an alluvial fan or similar landform are characterized by high-velocity flows, erosion, active sediment transport, and unpredictable flow paths. Due to the lack of the defined channels, unpredictable flow paths, and relatively flat plain, a two-dimensional hydrologic model was created to complete the off-site hydrology.

The hydrology for off-site areas were modeled using FLO-2D Pro (FLO-2D Software, Inc). FLO-2D is a finite difference, finite element model using uniform square grid elements. FLO-2D is essentially a finite volume model that tracks the volume distribution to represent the floodwave movement. USGS Digital Elevation Model (DEM) topography data and the Grid Developer System

(GDS) was used to create a gridded network of the floodplain, streets, and other obstruction data, as well as interpolate ground elevation values for each grid. The DEM consists of a 1/3 arc second ASCII Grid format with 10-meter grid spacing. The model computes the discharge flux and velocity in eight (8) directions for each cell; the model was comprised of 100-ft x 100-ft grid elements



FLO-2D Grid Elements

(496,963 total grid elements). An illustration of the FLO-2D grid is shown below.

The FLO-2D model computational limits are shown on Figure 1. The model includes the alluvial fan portion of some hills of the San Gabriel mountains. The computational limits were drawn such that all flow that could potentially run onto the site. Review of aerial photos and topographic data showed that not all areas within the fan will concentrate onto the site. The FLO-2D model will allow runoff to leave the model computational domain if existing topography dictates that the runoff will flow away from the site.

FLO-2D calculates runoff for each grid element, based on a given rainfall depth and rainfall distribution. The flow direction, depth, and velocity are based on several factors, including topography, surface roughness (Manning's "n"), and infiltration characteristics (SCS Runoff Curve Numbers). There were a few key features within the watershed that influence the floodplain limits.

2.2 RAINFALL

The off-site hydrologic analysis was conducted for the 100-year, 24-hour design storm event. Rainfall depths for the design storm were obtained using NOAA Atlas 14 grids within ArcGIS. Rainfall depths were applied through the FLO-2D model across the watershed to each FLO-2D grid element, on a spatially variable basis. Rainfall depths varied from approximately 2.9-inches within the flat plains to 12.3-inches within the hills to the south. The use of NOAA Atlas 14 rainfall was in accordance with the 2010 *County of San Bernardino Hydrology Addendum for Arid Regions* (SBCDPW, April 2010). The off-site hydrology analysis was summarized in Appendix A. Supporting hydrologic data is provided in Appendix B.

3 EXISTING DRAINAGE (PRE-DEVELOPMENT CONDITION)

3.1 EXISTING TOPOGRAPHY

The proposed site is located at the northern end of a 179 square-mile watershed just east of the El Mirage Dry Lake Bed. An existing topographic map is shown on Figure 2. The southern end of the watershed is characterized by steady hills, maximum elevation 6,875-ft. The northern end of the watershed is also bordered by hills, maximum elevation 3,300-ft. The majority of the watershed is characterized as a continuous floodplain, dominated by desert brush. The watershed concentrates into a naturally occurring stream just north of the proposed site. This stream outlets to the east, eventually reaching the Mojave River system.

3.2 EXISTING HYDROLOGIC SOIL GROUPS

Existing hydrologic soil groups across the site and watershed are used to determine the expected amount of runoff for the given storm event. Hydrologic soil groups are categorized by A, B, C, and D. Each group is representative of a soils potential for run-off. The hydrologic soil groups for the proposed site were determined using Web Soil Survey (WSS). WSS is a national public data base for soils data. Where soil data was incomplete or missing, a conservative Hydrologic Soil group of "D" was assigned. See Figure 4 for a breakdown of the watershed hydrologic soil groupings.

3.3 EXISTING LANDCOVER

Existing Land cover areas were based on data collected from the National Land Cover Database (NLCD). See Figures 5 for an existing land cover map.

Major existing land cover types onsite include desert shrub/scrub, developed low density land, herbaceous grassland, and developed open space.

Surface roughness is based on Manning's "n" values. Manning's "n" values were determined based on land cover data from the NLC), using Manning's "n" tables from "Open-Channel Hydraulics" (Chow, 1959).

3.4 CURVE NUMBER

Watershed losses were calculated using the SCS Runoff Curve Number (CN) method within FLO-2D. Curve numbers for the watershed were produced using the San Bernardino County (SBC) Hydrology Manual Curve number tables in conjunction with TR-55 manuals curve number tables. The TR-55 tables were used for landcover types not specified within the San Bernardino county Hydrology manual. Both the SBC hydrology manual and TR-55 tables rely on a combination of land use/land cover parameters and hydrologic soil group information. Curve numbers were applied to every land cover and HSG combination. These curve numbers were then modified using the appropriate Antecedent Moisture Condition (AMC) number of I, II, or III for the geographic location. AMC refers to the assumed relative saturation of a watersheds underlying soil. A lower AMC of I assumes a soil with low saturation and high infiltration capacity. An AMC of III assumes a soil with high saturation and lower infiltration capacity. An AMC of III was assumed for the entire watershed, as a conservative approach to the hydrologic modeling. See Figure 6 for the Curve Number Map utilized within the model.

3.5 HYDROLOGIC RESULTS

The inundation area, for the existing 100-year, 24-hour events are summarized in Figures 7 and 8 in Appendix A. The 100-year flow depths through the project site range between approximately 0.25-ft and 2-ft. Larger depths between 3-ft and 6-ft are concentrated in natural channels on the east and north sides of the site. Areas with deeper flows and steeper slopes should generally be avoided due to inundation depths, grading challenges, and scour potential. Velocities on-site are not expected to exceed 1.0-ft/s to 2.0-ft/s on average for most of the site (Figure 11). Areas of flow concentration will see velocities upward of 10.0 ft/s. Slower velocities across most of the site is expected due to the site existing within an alluvial plain.

To evaluate the erosion effects due to scouring, local pier scour depth was estimated using the FHWA HEC-18. Scour was calculated for each grid element, using ArcGIS software based on flood depths and velocities determined by the model. Calculations are tabulated in Appendix C and results are depicted in Figure 10.

Max flow rates entering onsite are summarized below. See Figure 13 for an exhibit showing the locations of Cross-Section used for Peak flow evaluation.

Table 1

Existing Condition Peak Flows; 100-Year 24-Hour Storm (Figure 10 & 13)

Cross-Section Number	Max Flow (CFS)	Time to Peak (hrs)
#1	6,825	26.4
#2	2,665	30.2
#3	914	29.0
#4	3,913	25.3
#5	702	26.6
#6	1,083	31.5
#7	2,179	26.9

4 PROPOSED CONDITION (POST-DEVELOPMENT CONDITION)

4.1 PROPOSED TOPOGRAPHY/GRADING

Onsite grading will be sparse and minimal. Grading onsite will not change the overall drainage pattern of the site.

4.2 PROPOSED HYDROLOGIC SOIL GROUPS

Hydrologic soil groups will not be affected be affected by onsite development. See Section 3.2 for existing watershed Hydrologic Soil Groups.

4.3 PROPOSED LANDCOVER

Increases in imperviousness for the project will be minimal. Onsite access roads will be compacted native or gravel similar to existing conditions. The site has very little vegetation and only minor grading is expected with no changes to the existing site drainage patterns. The site will be mowed but not grubbed to keep vegetation root integrity and promote vegetation growth. The proposed project will produce approximately 1.3 acres (0.002 square-miles) of impervious area. This impervious area is added to existing barren/shrub land that is considered pervious. For the purpose of this calculation, impervious areas were assumed to be the PV Tracker pile area, inverter skids, battery skids, and additional substation pads. The proposed all weather access roads were assumed be pervious.

The additional impervious area represents 0.0011% of the watershed that is contributing to the streams passing through the proposed site. This increase in impervious area constitutes a small enough area to confidently assume that the additional impervious area for the solar site will have minimal to no impact on the existing watershed hydrologically.

Proposed hydraulic obstructions include fencing, and tracker piles. Tracker piles are typically 6” wide and spaced 15’ – 25’ On-Center (O.C). Because of the relatively small footprint of the pier and wide spacing, tracker piles are assumed to have negligible effect on site hydraulics. Areas with large flow concentrations against site fencing, can utilize “Flow-through” fencing. This type of fencing allows for large flows to pass through a wider fencing grid, disturbing the flow minimally. With this consideration, fencing is also assumed to have negligible effect on site hydraulics.

4.4 CURVE NUMBER

On-site increases in imperviousness, grading, and landcover changes will be minimal, see section 4.3. Therefore, CN values have not been modified for the proposed drainage condition. See section 3.4 for details on determining CN values.

4.5 HYDROLOGIC RESULTS

Due to there being minimal impact on the existing drainage area due to the proposed site, see section 4.1-4.4 for discussion, it is expected that the pre- and post development hydrologic and hydraulic watershed characteristics will behave the same. For that reason, a separate post development analysis was not performed, and it was opted instead, to use the pre- development results. These pre- development results will give an accurate depiction of the onsite and off-site drainage to be expected.

5 RESULTS AND DISCUSSION OF POTENTIAL IMPACTS

The inundation area, for the 100-year, 24-hour events are summarized in Figures 7 and 8 in Appendix A. The 100-year flow depths through the project site range between approximately 0.25-ft and 2-ft. Larger depths between 3-ft and 6-ft are concentrated in natural channels on the east and north sides of the site. Areas with deeper flows and steeper slopes should generally be avoided due to inundation depths, grading challenges, and scour potential. Velocities on-site are not expected to exceed 1.0-ft/s to 2.0-ft/s on average for most of the site (Figure 9). Areas of flow concertation will see velocities upward of 10.0 ft/s. Slower velocities across most of the site is expected due to the site existing within an alluvial plain.

The high infiltration capacity of the Type A soil (Figure 4) within the alluvial fan should be expected to reduce runoff potential. It is therefore expected and reasonable that our on-site analysis shows relatively low flood inundation levels (Figure 8) throughout the site and velocities averaging 1.0-ft/s to 2.0-ft/s (Figure 9).

To accommodate the potential for local scour within the 100-year inundation area, it is recommended that the pile embedment depth be increased to account for the scour depth. The minimum scour depth is 0.5-ft. Proper precautions will need to be taken to protect the PV arrays and on-site improvements from the potential of the lake bed sediment to rise with time.

6 REFERENCES

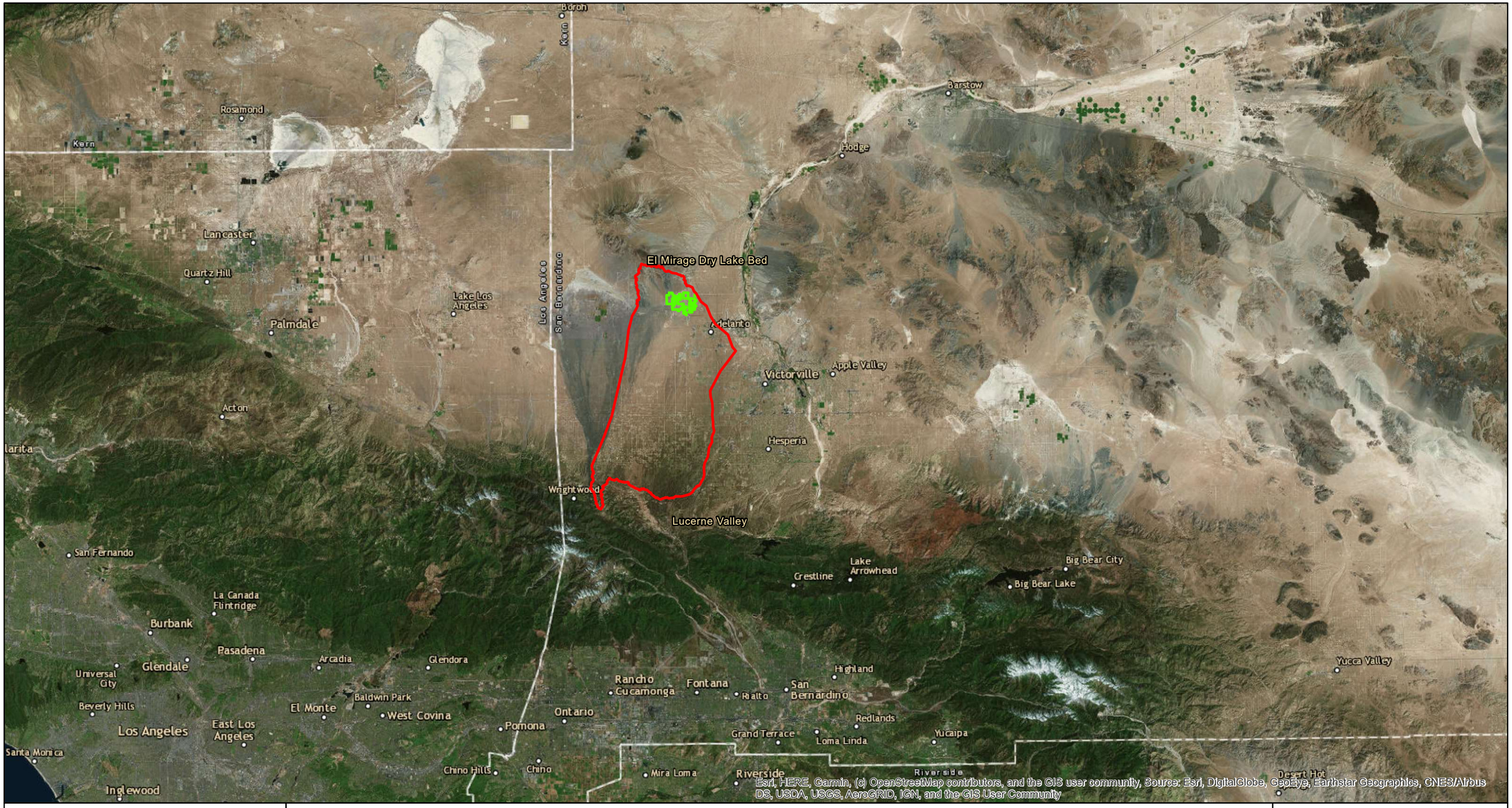
1. U.S. Department of Agriculture, Urban Hydrology for Small Watersheds, TR-55. June 1986.

2. San Bernardino County Department of Public Works (SBCDPW), *Hydrology Manual* , August, 1986.

3. San Bernardino County Department of Public Works (SBCDPW), *County of San Bernardino Hydrology Addendum for Arid Regions*, April, 2010.

4. Chow, V. T. (1959). *Open-Channel Hydraulics.* New York: McGraw-Hill.

Appendix A – Figures



0 2.5 5 10 15 20 Miles

N

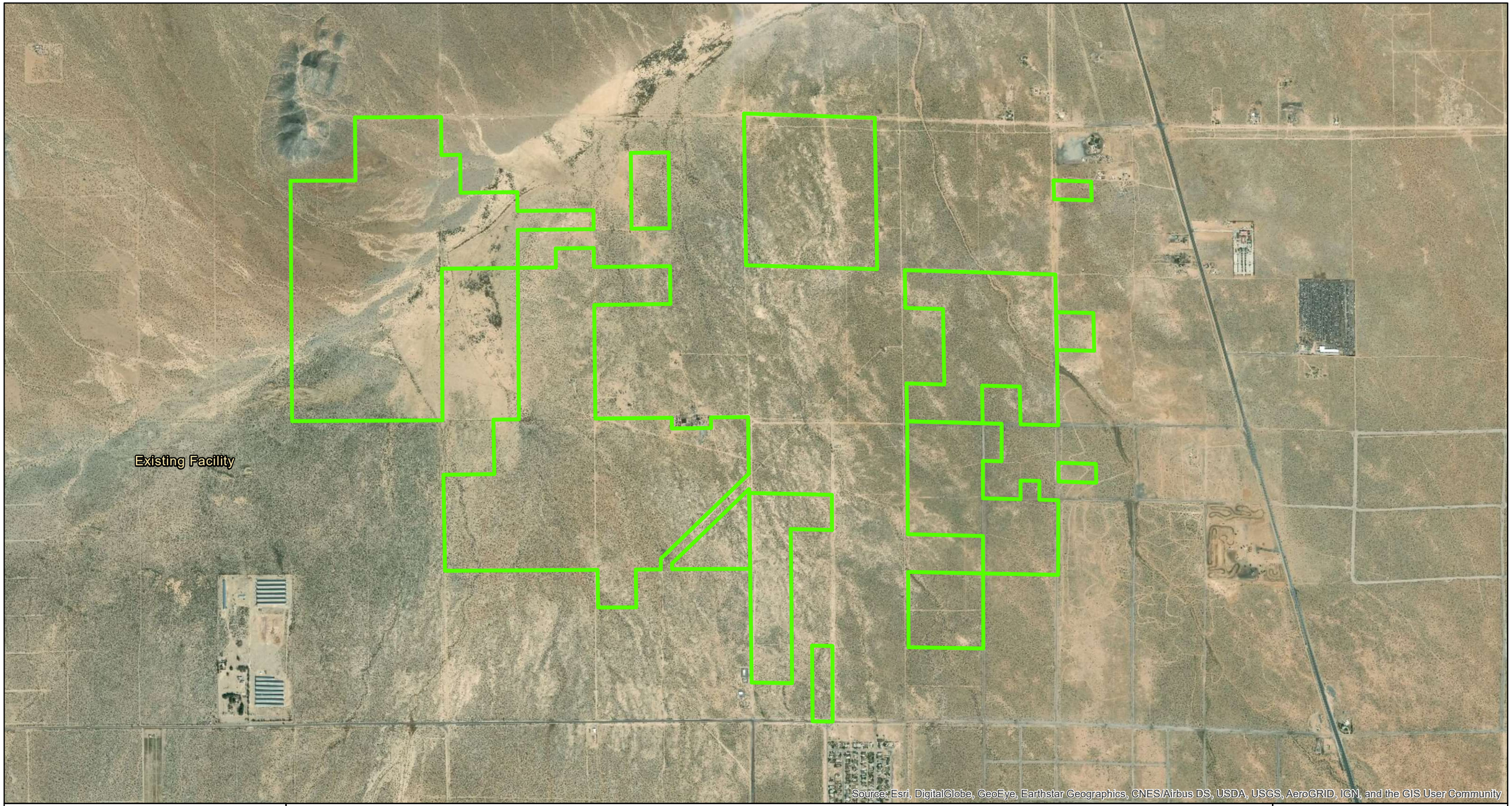
Kimley»Horn

Legend

- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Figure 1

Baldy Mesa
Location Map
San Bernardino County, California



0 1,000 2,000 3,000 4,000 Feet

N

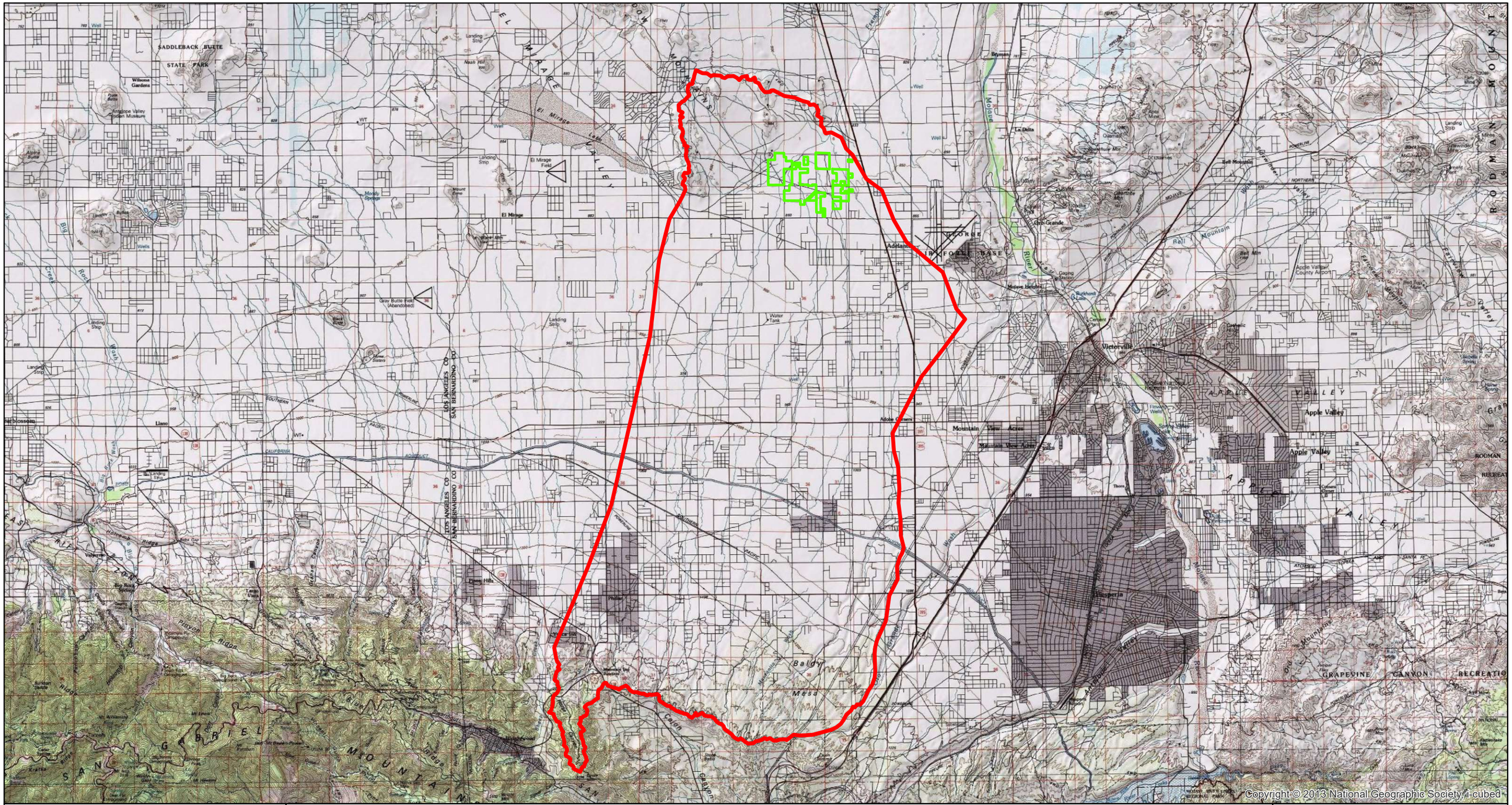
Kimley»Horn

Legend

Site Area

Figure 2

Baldy Mesa
Site Map
San Bernardino County, California



0 0.751.5 3 4.5 6 Miles

N

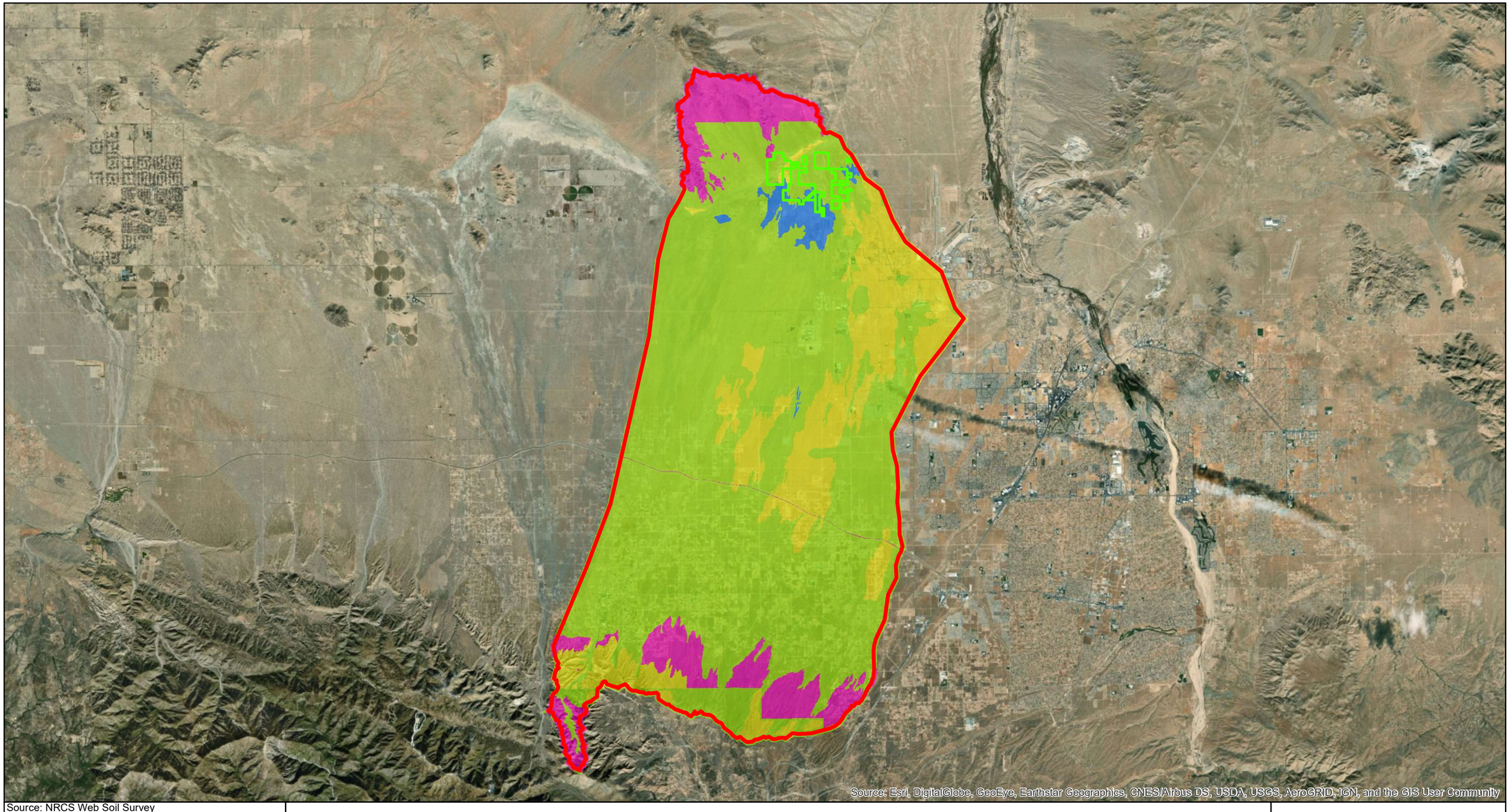
Kimley»Horn

Legend

- FLO-2D Model Boundary
- Site Expansion Area

Figure 3

Baldy Mesa
Topographic Map
San Bernardino County, California



Source: NRCS Web Soil Survey

0 0.751.5 3 4.5 6 Miles

N

Kimley»Horn

Legend

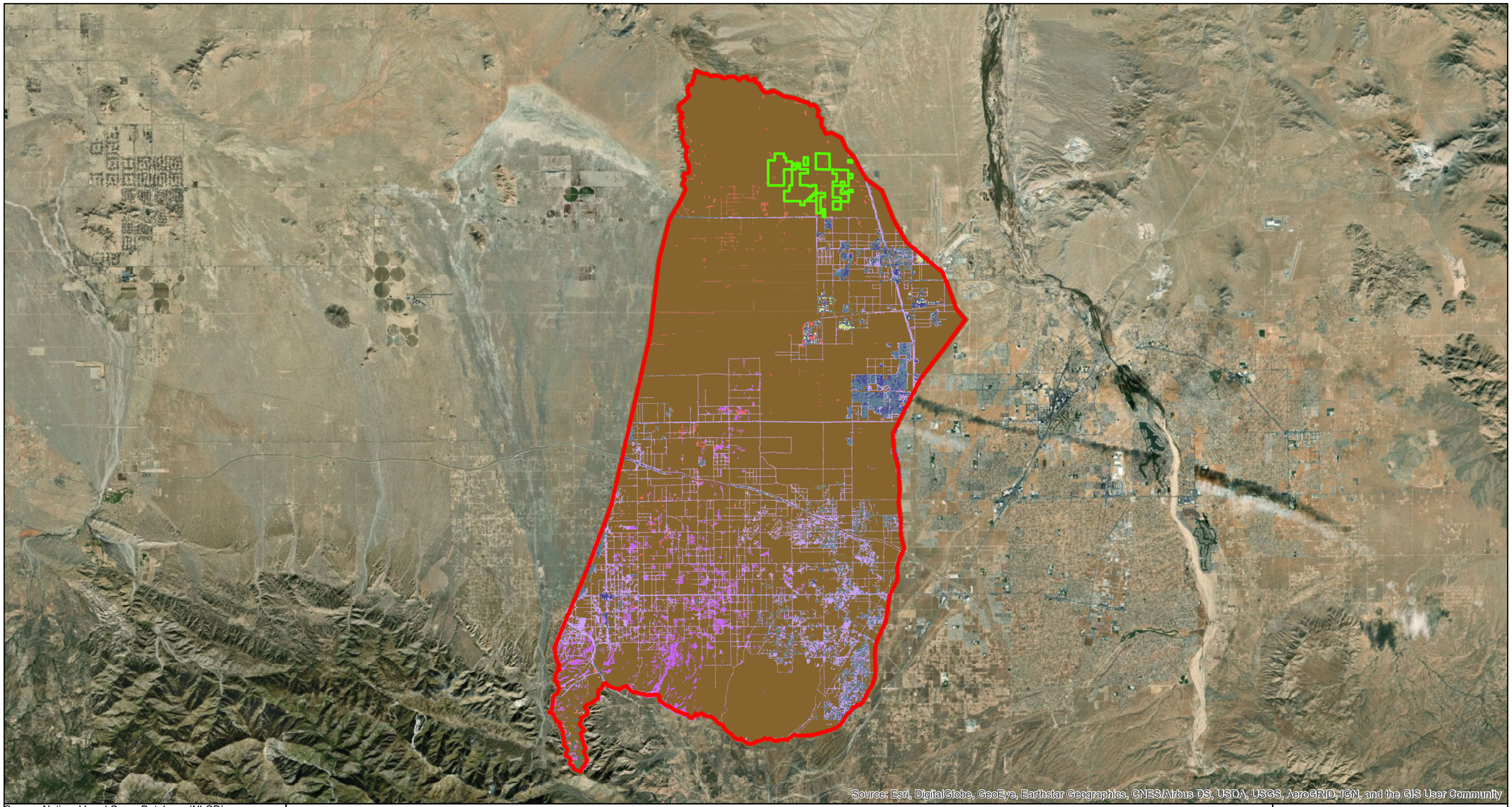
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Hydrologic Soil Group

- A
- B
- C
- D

Figure 4

Baldy Mesa
Hydrologic Soil Group
San Bernardino County, California



Source: National Land Cover Database (NLCD)

0 0.751.5 3 4.5 6 Miles

N

Kimley»Horn

Legend

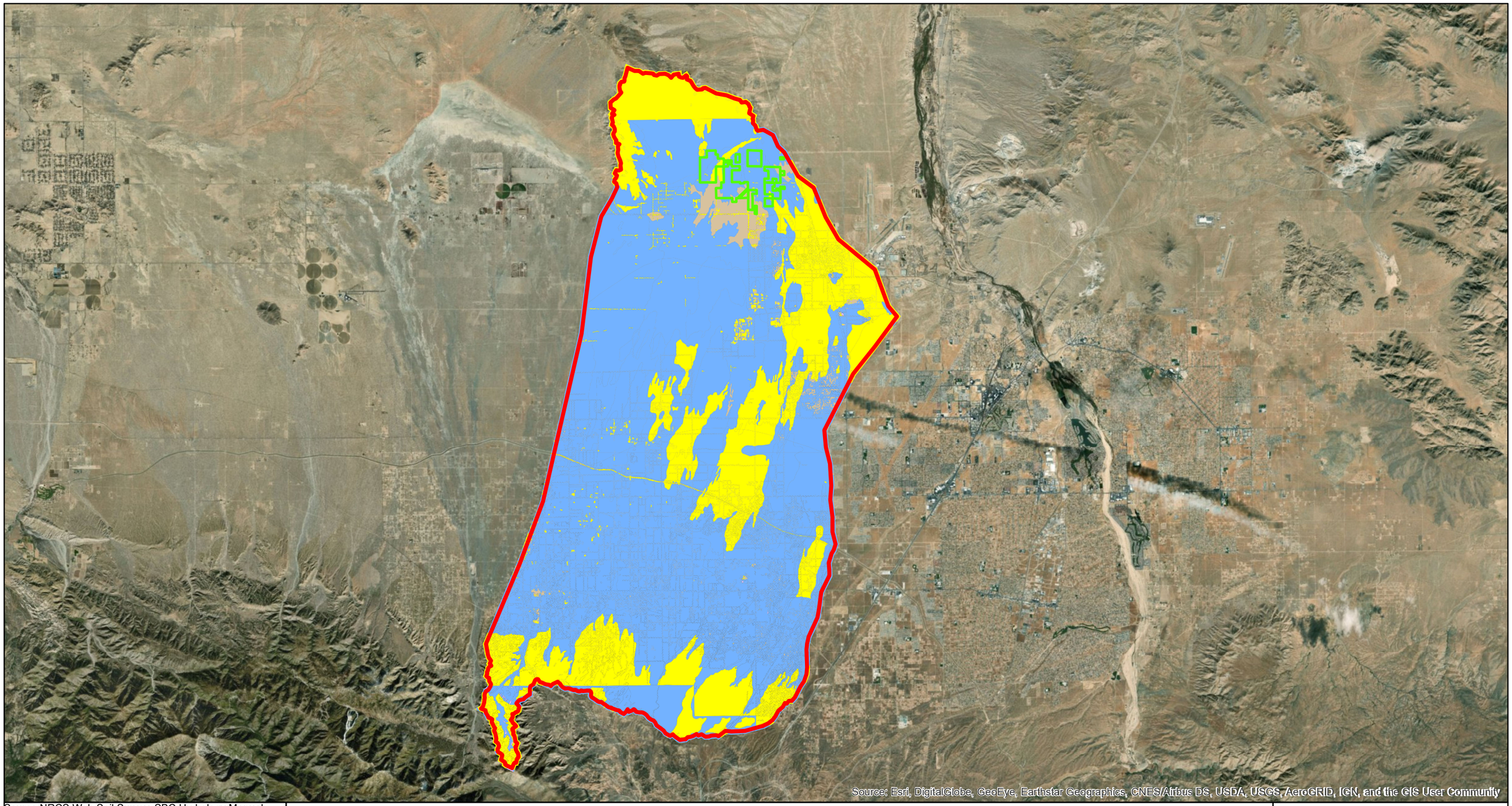
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Land Cover Type

- Barren Land
- Cultivated Crops
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, Open Space
- Evergreen Forest
- Grassland / Herbaceous
- Mixed Forest
- Open Water
- Pasture / Hay
- Shrub / Scrub
- Woody Wetlands

Figure 5

Baldy Mesa
Land Cover Map
San Bernardino County, California



Source:NRCS Web Soil Survey, SBC Hydrology Manual

0 0.751.5 3 4.5 6 Miles

N

Kimley»Horn

Legend

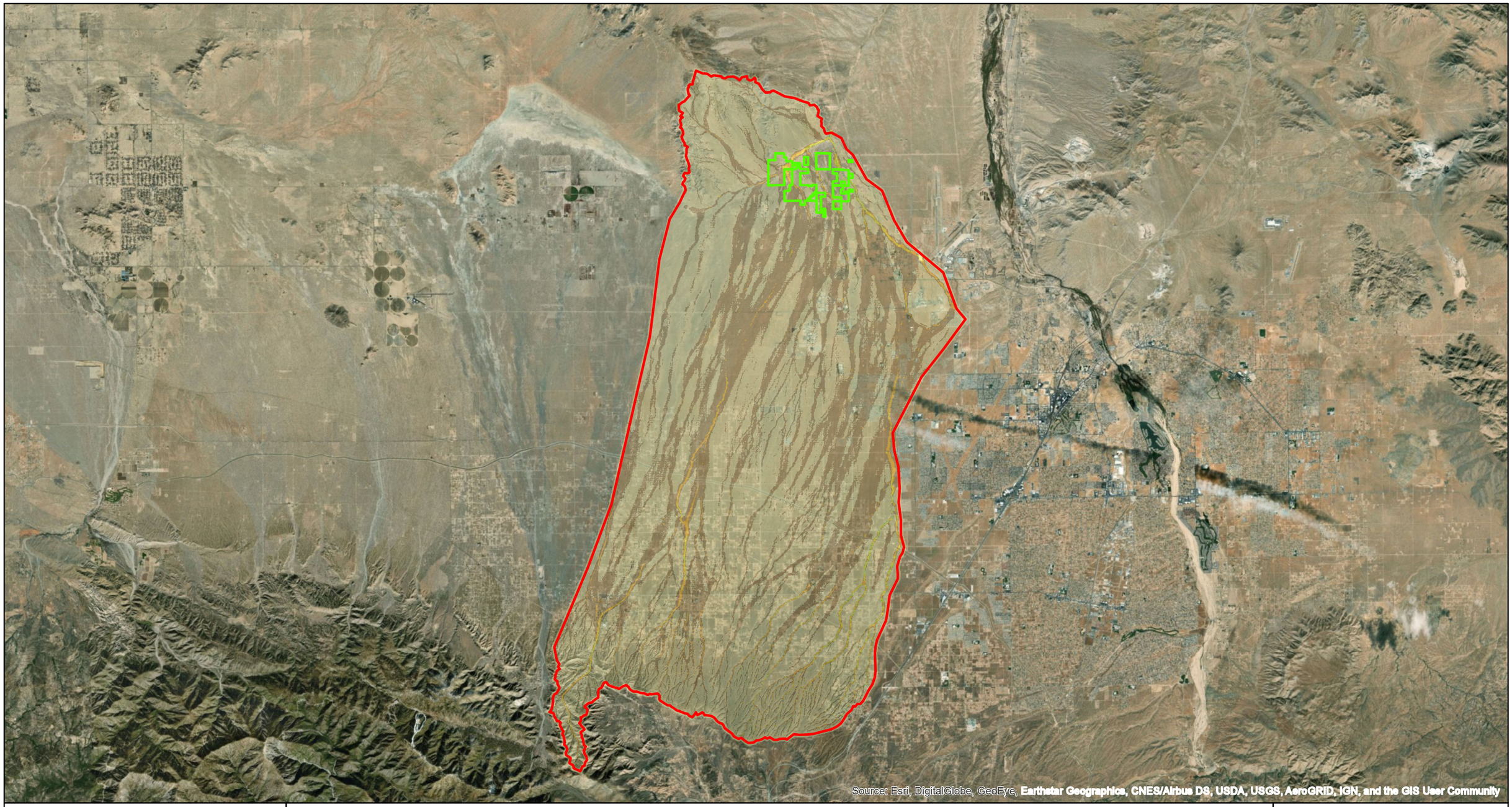
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

CN

- 28 - 50
- 51 - 62
- 63 - 72
- 73 - 85
- 86 - 100

Figure 6

Baldy Mesa
Curve Number Map
San Bernardino County, California



0 0.751.5 3 4.5 6 Miles

N

Kimley»Horn

Legend

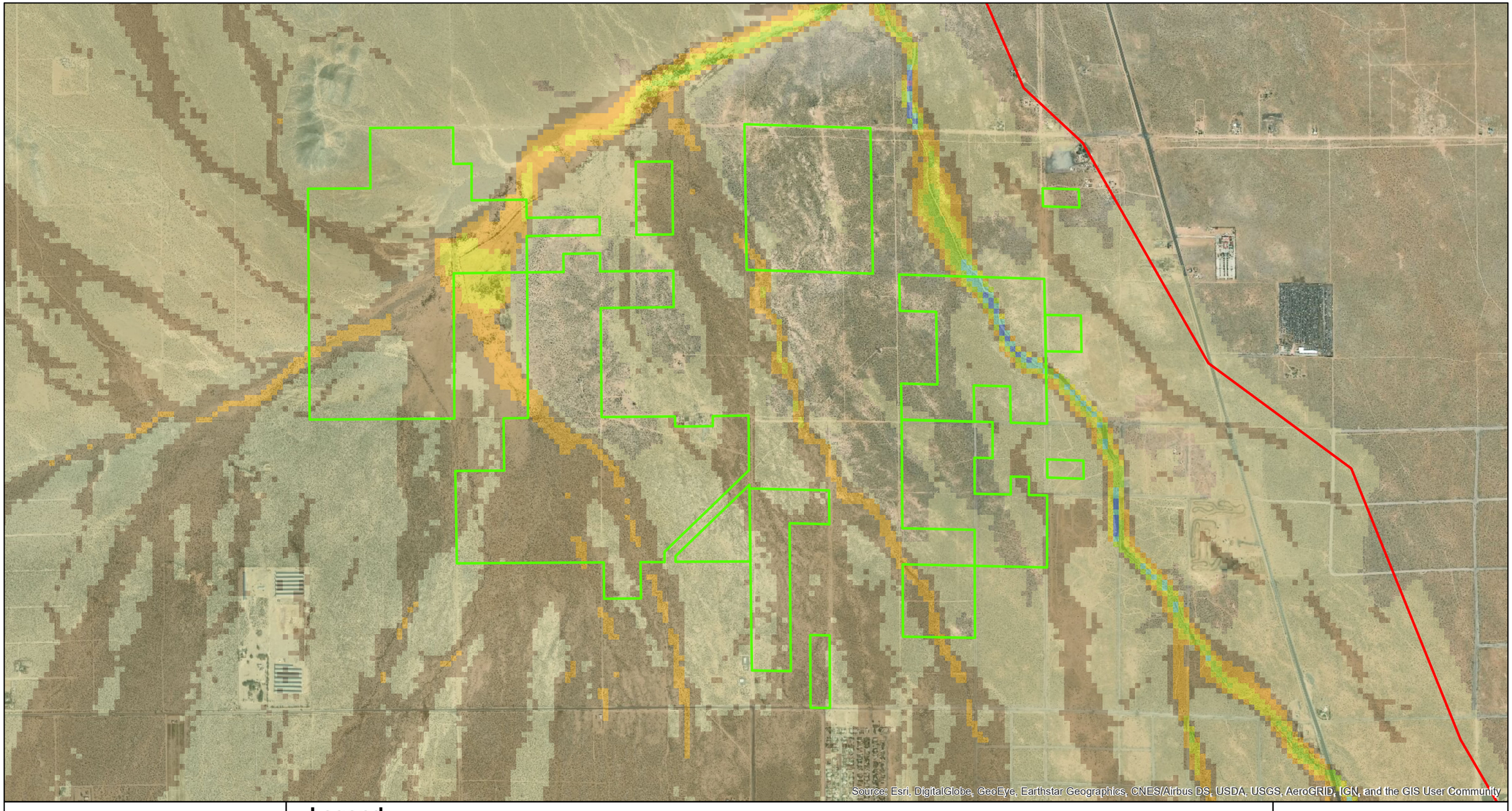
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Max Flow Depth (Ft)

- 0.0 - 0.25
- 0.25 - 1.0
- 1.0 - 2.0
- 2.0 - 3.0
- 3.0 - 4.0
- 4.0 - 5.0
- 5.0 - 6.0
- 6.0 - 10.0

Figure 7

Baldy Mesa Solar
Max Flood Depth Map
100-Year, 24-Hour Flood
San Bernardino County, California



0 900 1,800 2,700 3,600 Feet

N

Kimley»Horn

Legend

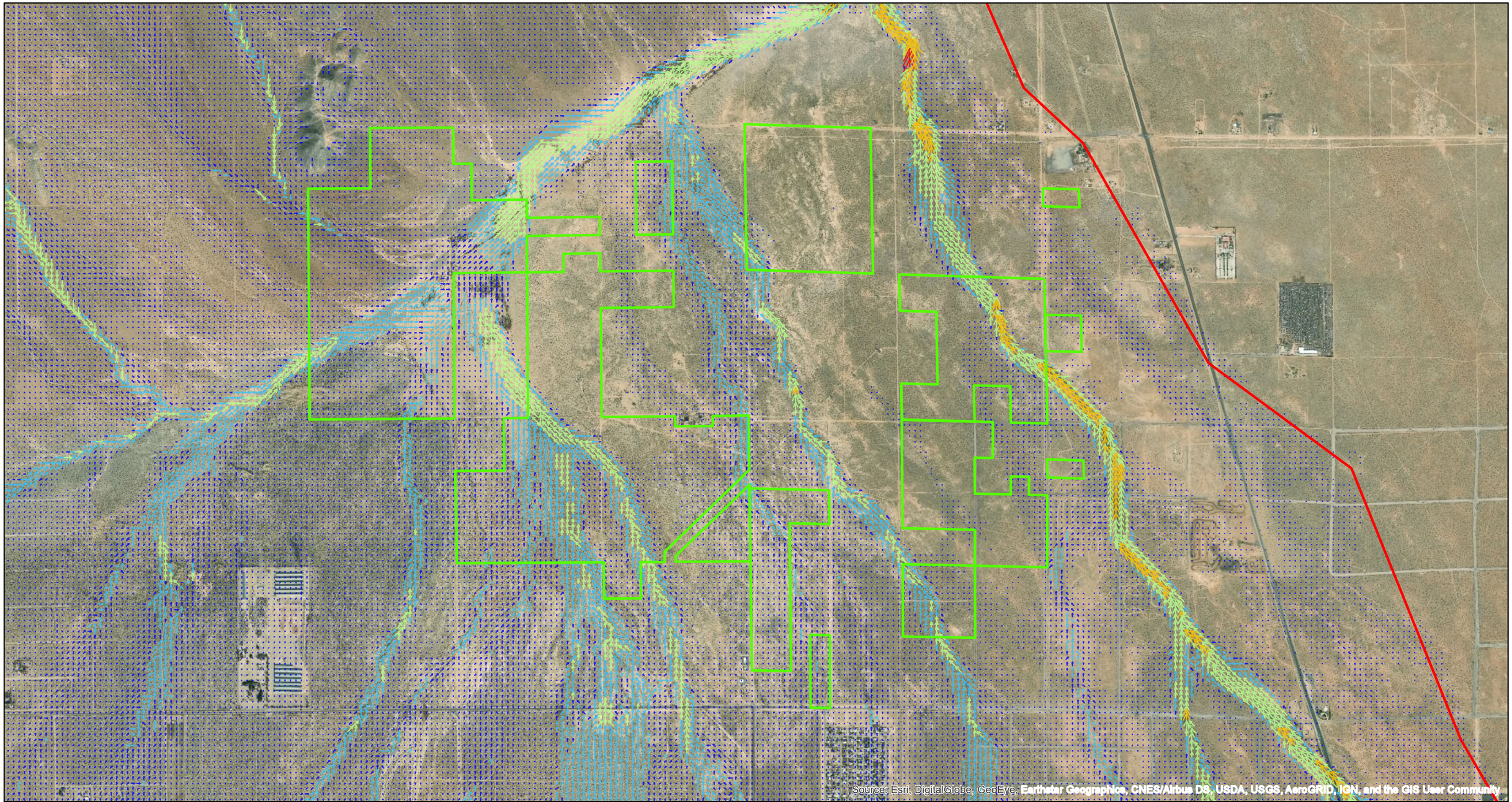
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Max Flow Depth (Ft)

- 0.0 - 0.25
- 0.25 - 1.0
- 1.0 - 2.0
- 2.0 - 3.0
- 3.0 - 4.0
- 4.0 - 5.0
- 5.0 - 6.0
- 6.0 - 10.0

Figure 8

Baldy Mesa Solar
Max On-Site Flood Depth Map
100-Year, 24-Hour Flood
San Bernardino County, California



0 450900 1,800 2,700 3,600 Feet

N

Kimley»Horn

Legend

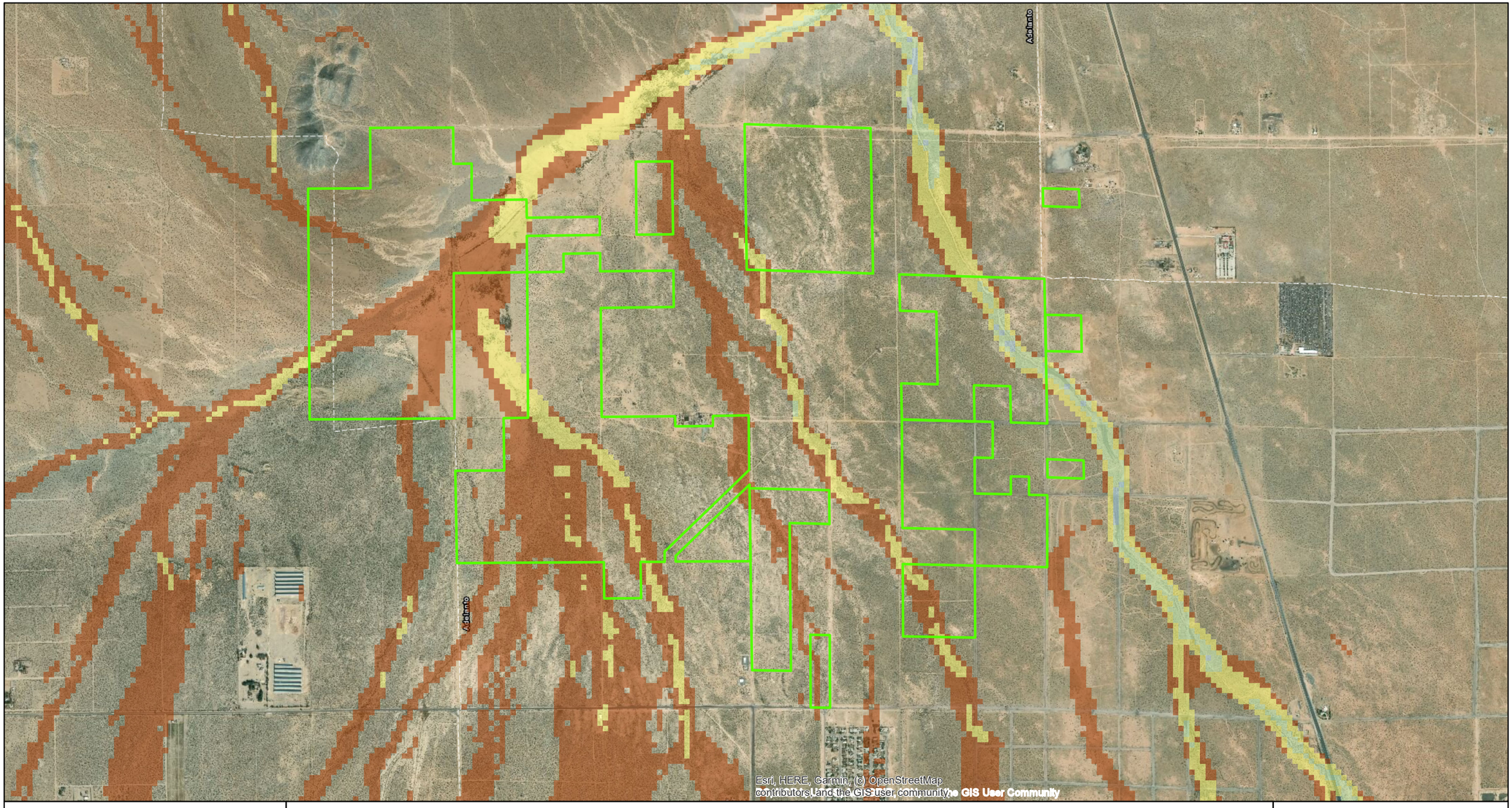
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Max Velocity (ft/s)

- 0.0 - 1.0
- 1.0 - 2.0
- 2.0 - 5.0
- 5.0 - 10.0
- 10.0 - 19.0

Figure 9

Baldy Mesa
Max Velocity Map
100-Year, 24-Hour Flood
San Bernardino County, California



0 900 1,800 2,700 3,600 Feet

N

Kimley»Horn

Legend

Site Area Phase 1 & 2

Max Scour Depth (Ft)

0.0 - 0.5

0.5 - 1.0

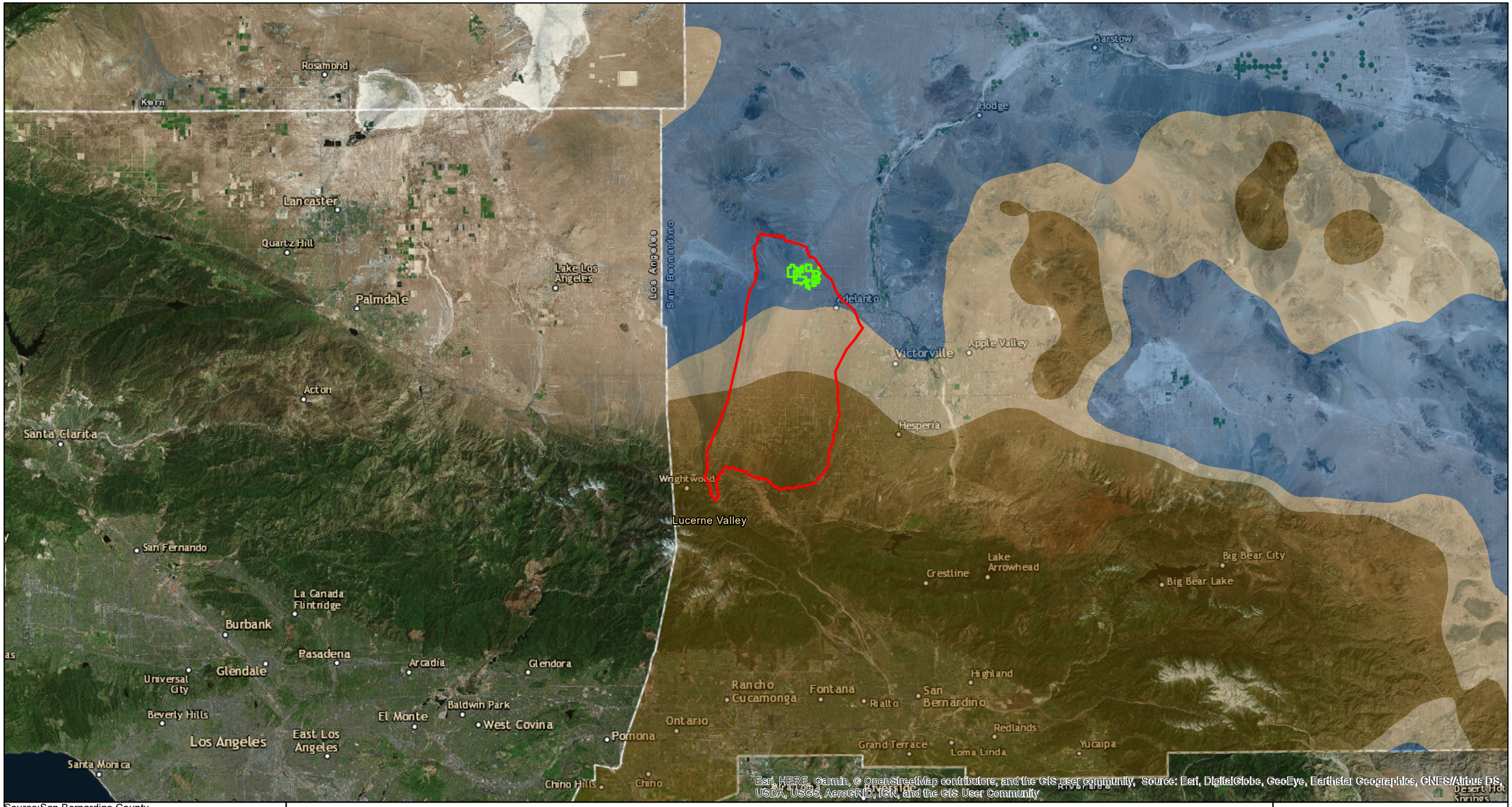
1.0 - 1.5

1.5 - 2.0

2.0 - 3.0

Figure 10

Baldy Mesa Solar
On-Site Max Flood Scour Map
100-Year, 24-Hour Flood
San Bernardino County, California



Source:San Bernardino County

0 2.5 5 10 15 20 Miles

N

Kimley»Horn

Legend

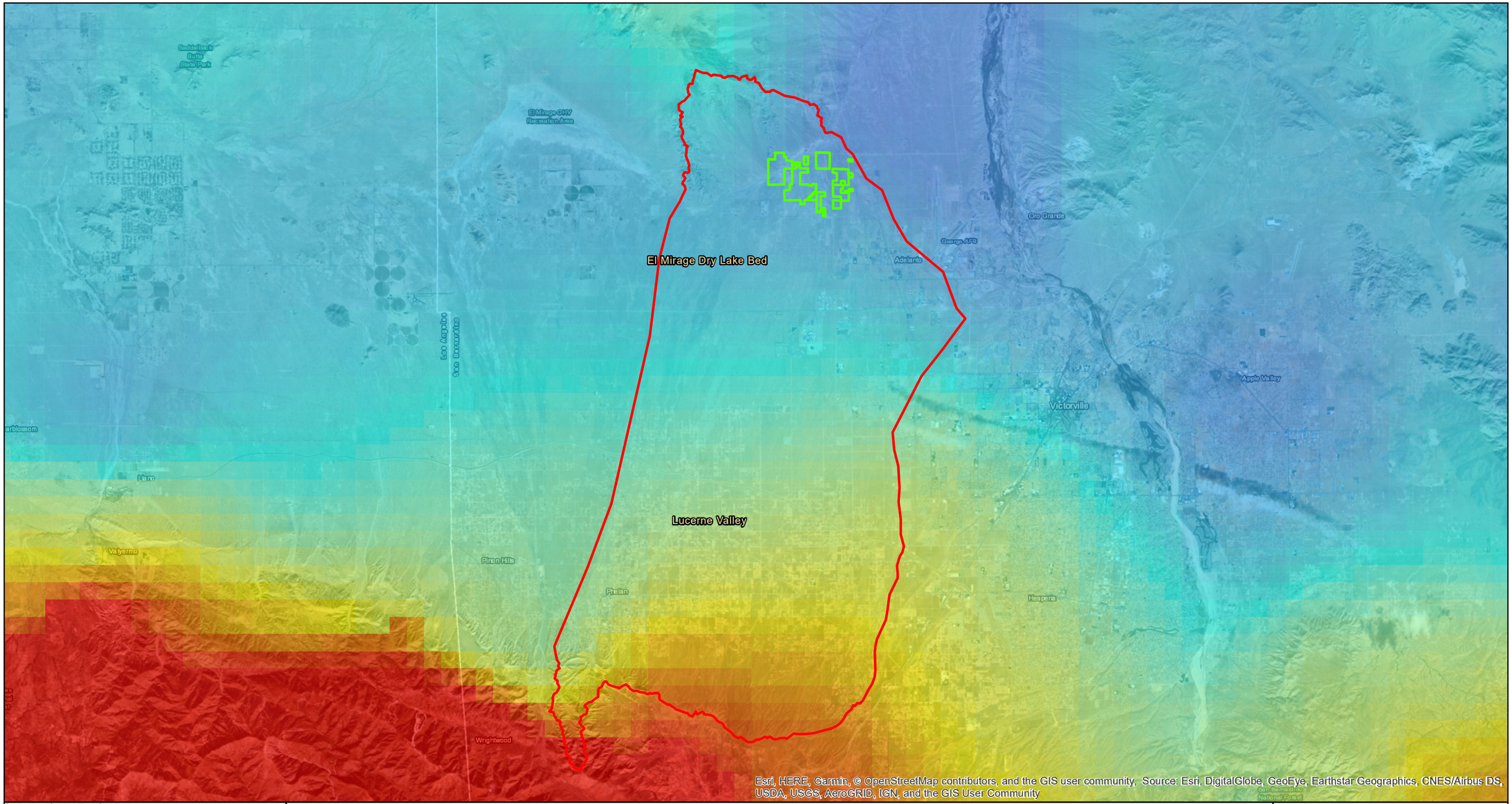
- FLO-2D Model Boundary
- Site Area Phase 1 & 2

Antecedent Moisture Condition (AMC)

- 3
- 1
- 2

Figure 11

Baldy Mesa
AMC Map
San Bernardino County, California



Source:NOAA ATLAS 14

0 0.751.5 3 4.5 6 Miles

N

Kimley»Horn

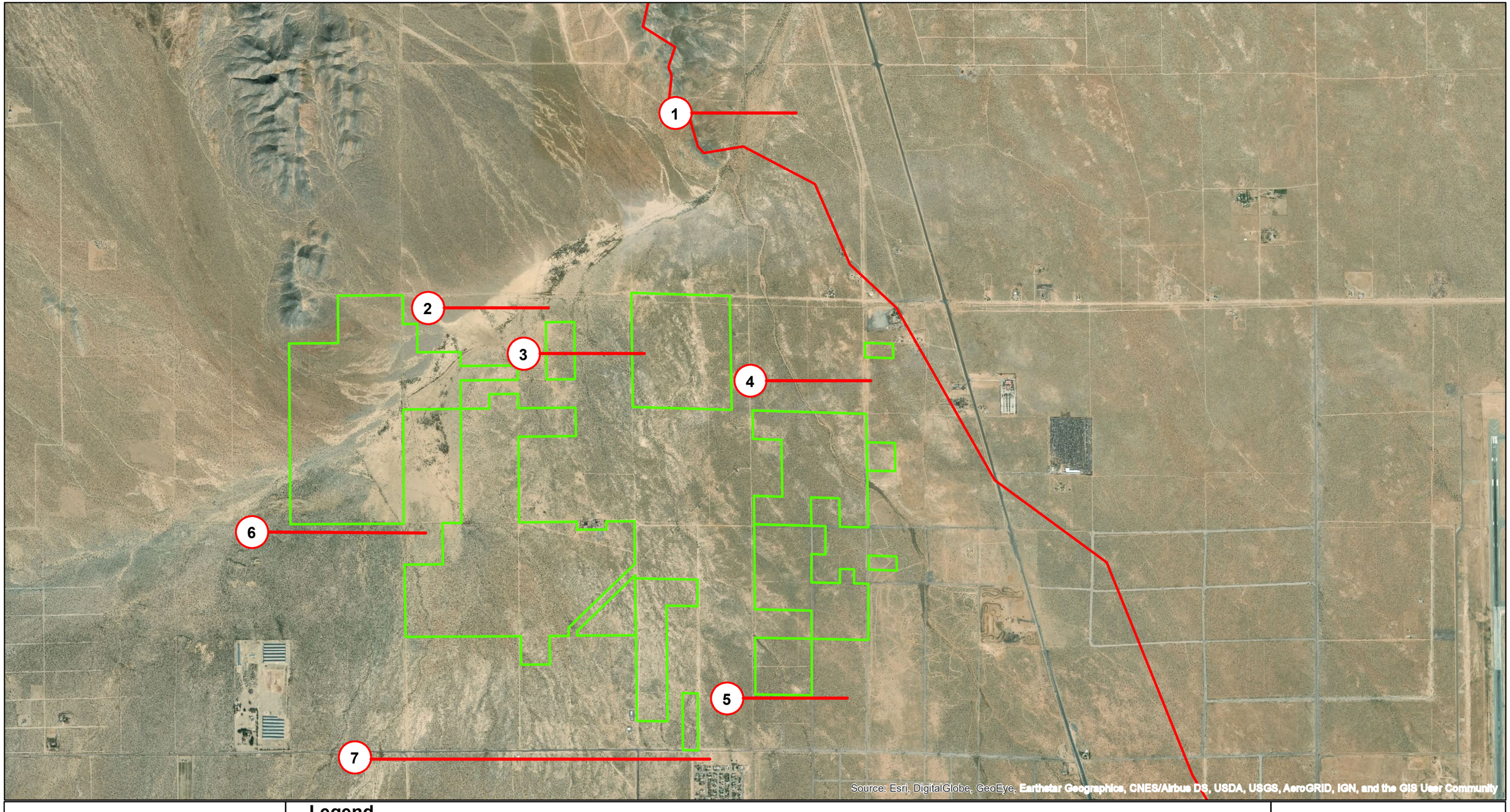
Legend

- FLO-2D Model Boundary
- Site Area Phase 1 & 2
- Rainfall_100yr24Hr_in Value
  - High : 22.886
  - Low : 1.398

Figure 12

Baldy Mesa Precipitation Map

San Bernardino County, California



0 1,100 2,200 3,300 4,400 Feet

N

Kimley»Horn

Legend

- FLO-2D Model Boundary
- Site Area Phase 1 & 2
- X — Cross-Section

Figure 13

Baldy Mesa Solar
Cross-Section Locations
San Bernardino County, California

Appendix B – Hydrologic Data Sources

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11 North. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency. This imagery was flown in 2005 and was produced with a 1-meter ground sample distance.

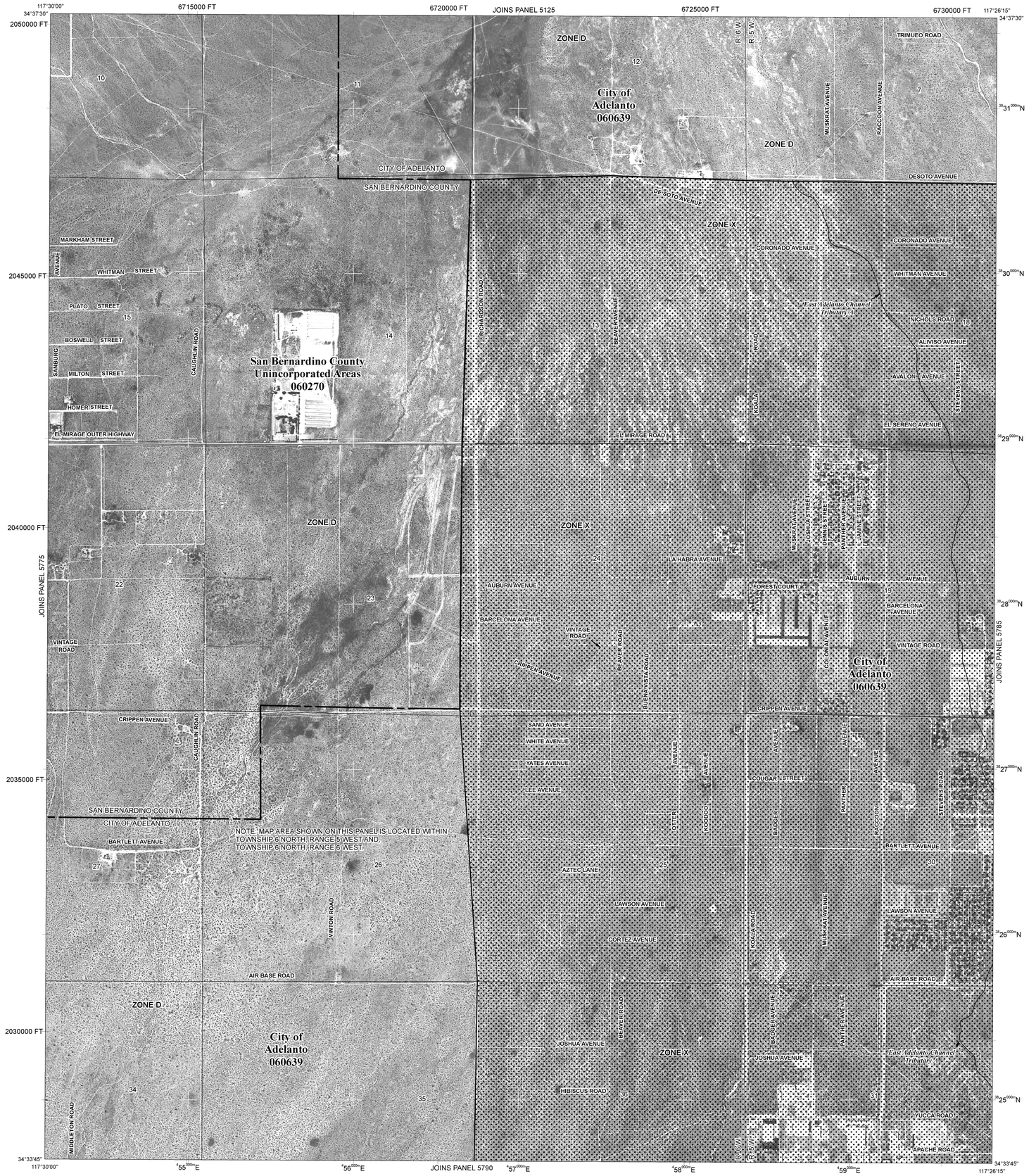
This map may reflect more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 2776000mN — 1000-meter Universal Transverse Mercator grid values, zone 11N
- 600000 FT — 5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ●M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 18, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
August 28, 2008 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 5780H

FIRM

FLOOD INSURANCE RATE MAP

SAN BERNARDINO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 5780 OF 9400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ADELANTO, CITY OF	060639	5780	H
SAN BERNARDINO COUNTY	060270	5780	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06071C5780H

MAP REVISED
AUGUST 28, 2008

Federal Emergency Management Agency

Appendix B Synthetic Rainfall Distributions and Rainfall Data Sources

The highest peak discharges from small watersheds in the United States are usually caused by intense, brief rainfalls that may occur as distinct events or as part of a longer storm. These intense rainstorms do not usually extended over a large area and intensities vary greatly. One common practice in rainfall-runoff analysis is to develop a synthetic rainfall distribution to use in lieu of actual storm events. This distribution includes maximum rainfall intensities for the selected design frequency arranged in a sequence that is critical for producing peak runoff.

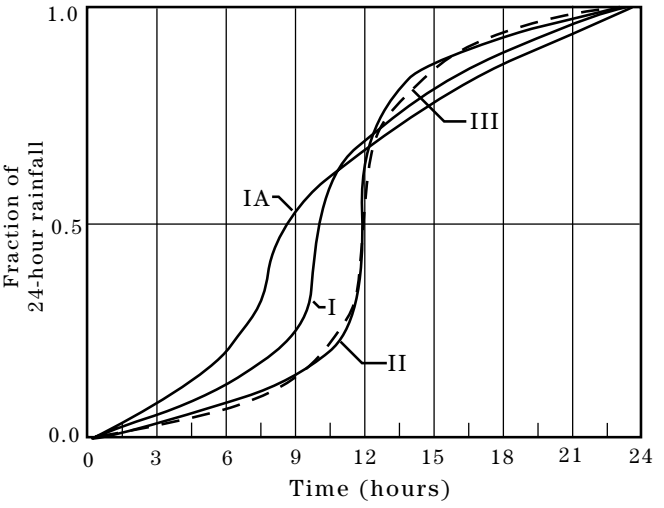
Synthetic rainfall distributions

The length of the most intense rainfall period contributing to the peak runoff rate is related to the time of concentration (T_c) for the watershed. In a hydrograph created with NRCS procedures, the duration of rainfall that directly contributes to the peak is about 170 percent of the T_c. For example, the most intense 8.5-minute rainfall period would contribute to the peak discharge for a watershed with a T_c of 5 minutes. The most intense 8.5-hour period would contribute to the peak for a watershed with a 5-hour T_c.

Different rainfall distributions can be developed for each of these watersheds to emphasize the critical rainfall duration for the peak discharges. However, to avoid the use of a different set of rainfall intensities for each drainage area size, a set of synthetic rainfall distributions having "nested" rainfall intensities was developed. The set "maximizes" the rainfall intensities by incorporating selected short duration intensities within those needed for longer durations at the same probability level.

For the size of the drainage areas for which NRCS usually provides assistance, a storm period of 24 hours was chosen the synthetic rainfall distributions. The 24-hour storm, while longer than that needed to determine peaks for these drainage areas, is appropriate for determining runoff volumes. Therefore, a single storm duration and associated synthetic rainfall distribution can be used to represent not only the peak discharges but also the runoff volumes for a range of drainage area sizes.

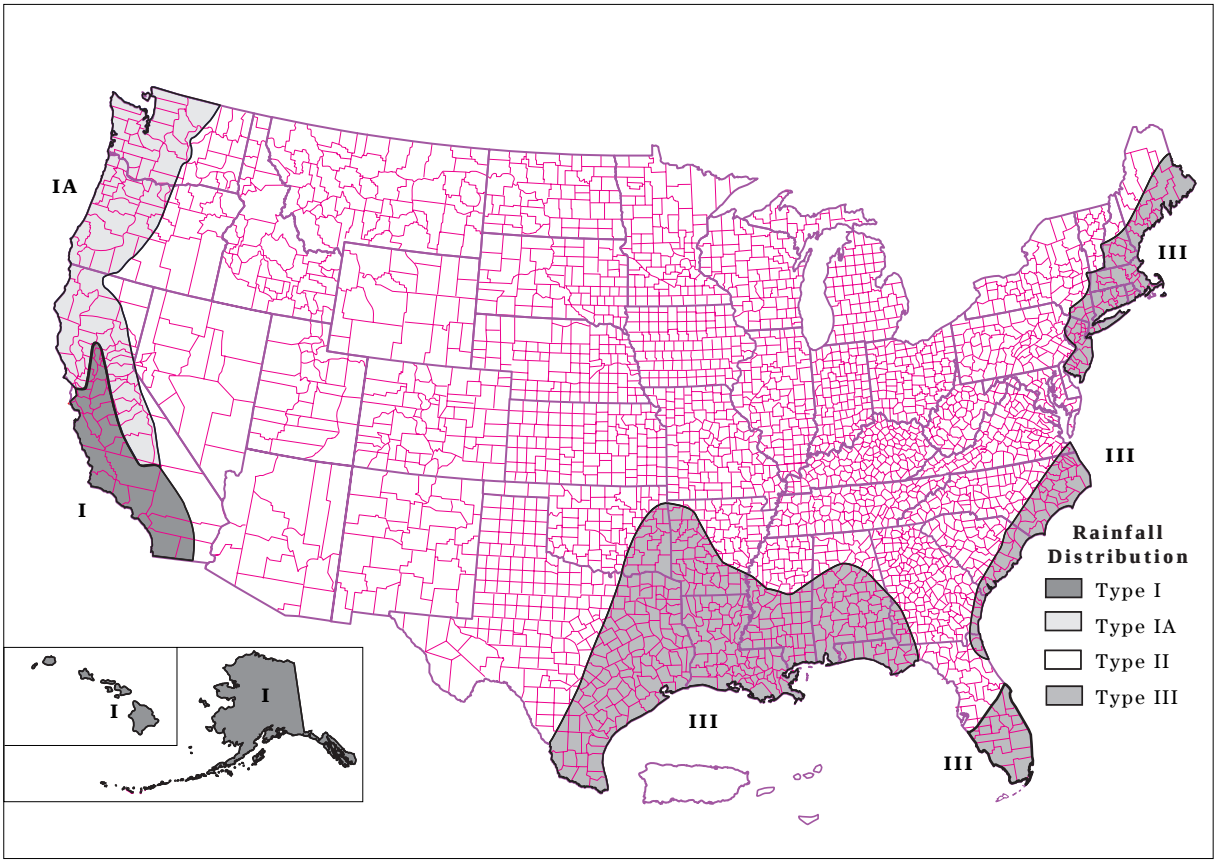
Figure B-1 SCS 24-hour rainfall distributions



The intensity of rainfall varies considerably during a storm as well as geographic regions. To represent various regions of the United States, NRCS developed four synthetic 24-hour rainfall distributions (I, IA, II, and III) from available National Weather Service (NWS) duration-frequency data (Hershfield 1061; Frederick et al., 1977) or local storm data. Type IA is the least intense and type II the most intense short duration rainfall. The four distributions are shown in figure B-1, and figure B-2 shows their approximate geographic boundaries.

Types I and IA represent the Pacific maritime climate with wet winters and dry summers. Type III represents Gulf of Mexico and Atlantic coastal areas where tropical storms bring large 24-hour rainfall amounts. Type II represents the rest of the country. For more precise distribution boundaries in a state having more than one type, contact the NRCS State Conservation Engineer.

Figure B-2 Approximate geographic boundaries for NRCS (SCS) rainfall distributions



Rainfall data sources

This section lists the most current 24-hour rainfall data published by the National Weather Service (NWS) for various parts of the country. Because NWS Technical Paper 40 (TP-40) is out of print, the 24-hour rainfall maps for areas east of the 105th meridian are included here as figures B-3 through B-8. For the area generally west of the 105th meridian, TP-40 has been superseded by NOAA Atlas 2, the Precipitation-Frequency Atlas of the Western United States, published by the National Ocean and Atmospheric Administration.

East of 105th meridian

Hershfield, D.M. 1961. Rainfall frequency atlas of the United States for durations from 30 minutes to 24 hours and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 40. Washington, DC. 155 p.

West of 105th meridian

Miller, J.F., R.H. Frederick, and R.J. Tracey. 1973. Precipitation-frequency atlas of the Western United States. Vol. I Montana; Vol. II, Wyoming; Vol III, Colorado; Vol. IV, New Mexico; Vol V, Idaho; Vol. VI, Utah; Vol. VII, Nevada; Vol. VIII, Arizona; Vol. IX, Washington; Vol. X, Oregon; Vol. XI, California. U.S. Dept. of Commerce, National Weather Service, NOAA Atlas 2. Silver Spring, MD.

Alaska

Miller, John F. 1963. Probable maximum precipitation and rainfall-frequency data for Alaska for areas to 400 square miles, durations to 24 hours and return periods from 1 to 100 years. U.S. Dept. of Commerce, Weather Bur. Tech. Pap. No. 47. Washington, DC. 69 p.

Hawaii

Weather Bureau. 1962. Rainfall-frequency atlas of the Hawaiian Islands for areas to 200 square miles, durations to 24 hours and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 43. Washington, DC. 60 p.

Puerto Rico and Virgin Islands

Weather Bureau. 1961. Generalized estimates of probable maximum precipitation and rainfall-frequency data for Puerto Rico and Virgin Islands for areas to 400 square miles, durations to 24 hours, and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 42. Washington, DC. 94 P.

Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

High Risk - Coastal Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.

ZONE	DESCRIPTION
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1 - 30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

From FEMA Map Service Center:
http://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%20Flood%20Zone%20Designations

Figure ADD-1
Antecedent Moisture Condition (AMC)

5-day Rainfall - NOAA Atlas 14
(50% of Total Rainfall Prior to Peak)*

*1/2 (11-day - 1-day) =
1/2 (([10-day] + (1/10 ([20-day] - [10-day]))) - [1-day])

5 0 5 10 15
Miles

N
W E
S

Growing Season
- AMC I
- AMC II
- AMC III

Baxter Valley
Ridgecrest
STATE HWY 127
I-15
Boron
US HWY 395
Barstow
Needles
I-40
Adelanto
George AFB
George AFB
Victorville
Apple Valley
Mountain View Acres
Hesperia
STATE HWY 247
Wrightwood
Crestline
Lake Arrowhead
Big Bear City
Big Bear Lake
Running Springs
Claremont
Twentynine Palms
Yucca Valley
Joshua Tree
Morongo Valley
STATE HWY 62
Parker Dam
Blythe

Show

Manning's n Values

Reference tables for Manning's n values for Channels, Closed Conduits Flowing Partially Full, and Corrugated Metal Pipes.

Manning's n for Channels (Chow, 1959).

Type of Channel and Description	Minimum	Normal	Maximum
Natural streams - minor streams (top width at floodstage < 100 ft)			
1. Main Channels			
a. clean, straight, full stage, no rifts or deep pools	0.025	0.030	0.033
b. same as above, but more stones and weeds	0.030	0.035	0.040
c. clean, winding, some pools and shoals	0.033	0.040	0.045
d. same as above, but some weeds and stones	0.035	0.045	0.050
e. same as above, lower stages, more ineffective slopes and sections	0.040	0.048	0.055
f. same as "d" with more stones	0.045	0.050	0.060
g. sluggish reaches, weedy, deep pools	0.050	0.070	0.080
h. very weedy reaches, deep pools, or floodways with heavy stand of timber and underbrush	0.075	0.100	0.150
2. Mountain streams, no vegetation in channel, banks usually steep, trees and brush along banks submerged at high stages			
a. bottom: gravels, cobbles, and few boulders	0.030	0.040	0.050
b. bottom: cobbles with large boulders	0.040	0.050	0.070
3. Floodplains			
a. Pasture, no brush			
1.short grass	0.025	0.030	0.035
2. high grass	0.030	0.035	0.050
b. Cultivated areas			
1. no crop	0.020	0.030	0.040
2. mature row crops	0.025	0.035	0.045
3. mature field crops	0.030	0.040	0.050
c. Brush			
1. scattered brush, heavy weeds	0.035	0.050	0.070
2. light brush and trees, in winter	0.035	0.050	0.060
3. light brush and trees, in summer	0.040	0.060	0.080
4. medium to dense brush, in winter	0.045	0.070	0.110
5. medium to dense brush, in summer	0.070	0.100	0.160
d. Trees			
1. dense willows, summer, straight	0.110	0.150	0.200
2. cleared land with tree stumps, no sprouts	0.030	0.040	0.050
3. same as above, but with heavy growth of sprouts	0.050	0.060	0.080
4. heavy stand of timber, a few down trees, little	0.080	0.100	0.120

undergrowth, flood stage below branches			
5. same as 4. with flood stage reaching branches	0.100	0.120	0.160
4. Excavated or Dredged Channels			
a. Earth, straight, and uniform			
1. clean, recently completed	0.016	0.018	0.020
2. clean, after weathering	0.018	0.022	0.025
3. gravel, uniform section, clean	0.022	0.025	0.030
4. with short grass, few weeds	0.022	0.027	0.033
b. Earth winding and sluggish			
1. no vegetation	0.023	0.025	0.030
2. grass, some weeds	0.025	0.030	0.033
3. dense weeds or aquatic plants in deep channels	0.030	0.035	0.040
4. earth bottom and rubble sides	0.028	0.030	0.035
5. stony bottom and weedy banks	0.025	0.035	0.040
6. cobble bottom and clean sides	0.030	0.040	0.050
c. Dragline-excavated or dredged			
1. no vegetation	0.025	0.028	0.033
2. light brush on banks	0.035	0.050	0.060
d. Rock cuts			
1. smooth and uniform	0.025	0.035	0.040
2. jagged and irregular	0.035	0.040	0.050
e. Channels not maintained, weeds and brush uncut			
1. dense weeds, high as flow depth	0.050	0.080	0.120
2. clean bottom, brush on sides	0.040	0.050	0.080
3. same as above, highest stage of flow	0.045	0.070	0.110
4. dense brush, high stage	0.080	0.100	0.140
5. Lined or Constructed Channels			
a. Cement			
1. neat surface	0.010	0.011	0.013
2. mortar	0.011	0.013	0.015
b. Wood			
1. planed, untreated	0.010	0.012	0.014
2. planed, creosoted	0.011	0.012	0.015
3. unplaned	0.011	0.013	0.015
4. plank with battens	0.012	0.015	0.018
5. lined with roofing paper	0.010	0.014	0.017
c. Concrete			
1. trowel finish	0.011	0.013	0.015
2. float finish	0.013	0.015	0.016
3. finished, with gravel on bottom	0.015	0.017	0.020
4. unfinished	0.014	0.017	0.020
5. gunite, good section	0.016	0.019	0.023
6. gunite, wavy section	0.018	0.022	0.025
7. on good excavated rock	0.017	0.020	

8. on irregular excavated rock	0.022	0.027	
d. Concrete bottom float finish with sides of:			
1. dressed stone in mortar	0.015	0.017	0.020
2. random stone in mortar	0.017	0.020	0.024
3. cement rubble masonry, plastered	0.016	0.020	0.024
4. cement rubble masonry	0.020	0.025	0.030
5. dry rubble or riprap	0.020	0.030	0.035
e. Gravel bottom with sides of:			
1. formed concrete	0.017	0.020	0.025
2. random stone mortar	0.020	0.023	0.026
3. dry rubble or riprap	0.023	0.033	0.036
f. Brick			
1. glazed	0.011	0.013	0.015
2. in cement mortar	0.012	0.015	0.018
g. Masonry			
1. cemented rubble	0.017	0.025	0.030
2. dry rubble	0.023	0.032	0.035
h. Dressed ashlar/stone paving	0.013	0.015	0.017
i. Asphalt			
1. smooth	0.013	0.013	
2. rough	0.016	0.016	
j. Vegetal lining	0.030		0.500

Manning's n for Closed Conduits Flowing Partly Full (Chow, 1959).

Type of Conduit and Description	Minimum	Normal	Maximum
1. Brass, smooth:	0.009	0.010	0.013
2. Steel:			
Lockbar and welded	0.010	0.012	0.014
Riveted and spiral	0.013	0.016	0.017
3. Cast Iron:			
Coated	0.010	0.013	0.014
Uncoated	0.011	0.014	0.016
4. Wrought Iron:			
Black	0.012	0.014	0.015
Galvanized	0.013	0.016	0.017
5. Corrugated Metal:			
Subdrain	0.017	0.019	0.021
Stormdrain	0.021	0.024	0.030
6. Cement:			
Neat Surface	0.010	0.011	0.013
Mortar	0.011	0.013	0.015
7. Concrete:			
Culvert, straight and free of debris	0.010	0.011	0.013
Culvert with bends, connections, and some debris	0.011	0.013	0.014
Finished	0.011	0.012	0.014
Sewer with manholes, inlet, etc., straight	0.013	0.015	0.017
Unfinished, steel form	0.012	0.013	0.014
Unfinished, smooth wood form	0.012	0.014	0.016

Unfinished, rough wood form	0.015	0.017	0.020
8. Wood:			
Stave	0.010	0.012	0.014
Laminated, treated	0.015	0.017	0.020
9. Clay:			
Common drainage tile	0.011	0.013	0.017
Vitrified sewer	0.011	0.014	0.017
Vitrified sewer with manholes, inlet, etc.	0.013	0.015	0.017
Vitrified Subdrain with open joint	0.014	0.016	0.018
10. Brickwork:			
Glazed	0.011	0.013	0.015
Lined with cement mortar	0.012	0.015	0.017
Sanitary sewers coated with sewage slime with bends and connections	0.012	0.013	0.016
Paved invert, sewer, smooth bottom	0.016	0.019	0.020
Rubble masonry, cemented	0.018	0.025	0.030

Manning's n for Corrugated Metal Pipe (AISI, 1980).

Type of Pipe, Diameter and Corrugation Dimension	n
1. Annular 2.67 x 1/2 inch (all diameters)	0.024
2. Helical 1.50 x 1/4 inch	
8" diameter	0.012
10" diameter	0.014
3. Helical 2.67 x 1/2 inch	
12" diameter	0.011
18" diameter	0.014
24" diameter	0.016
36" diameter	0.019
48" diameter	0.020
60" diameter	0.021
4. Annular 3x1 inch (all diameters)	0.027
5. Helical 3x1 inch	
48" diameter	0.023
54" diameter	0.023
60" diameter	0.024
66" diameter	0.025
72" diameter	0.026
78" diameter and larger	0.027
6. Corrugations 6x2 inches	
60" diameter	0.033
72" diameter	0.032
120" diameter	0.030
180" diameter	0.028



FishXing Version 3.0 Beta, 2006

Appendix C – Scour Calculations

Scour Analysis

All Calcs based on
FHWA HEC-18

Date: 10-May-19
Calculated/Checked by: T.A.G
Project: Baldy Mesa Prelim Drainage Report
Locality: San Bernardino County
State California

Note: Calculations below are examples of scour calculations represented on Figure 9. Scour depths on Figure 9 represent worst case scenario based on max flood depth and max velocities at each grid element; these maximum values may not occur simultaneously.

Max Flow Depth (y_1) (ft)	Velocity$_A$ (ft/s)	Velocity$_B$ (ft/s)	Froude #$_A$ (Fr)	Froude #$_B$ (Fr)	Local Scour$^{1,5}{}_A$ (y_s) (ft)	Local Scour$^{1,5}{}_B$ (y_s) (ft)
1	1.0	5	0.18	0.88	0.7	1.5
2	1.0	5	0.12	0.62	0.8	1.6
3	1.0	5	0.10	0.51	0.8	1.7
4	1.0	5	0.09	0.44	0.9	1.8
5	1.0	5	0.08	0.39	0.9	1.8
6	1.0	5	0.07	0.36	0.9	1.9
7	1.0	5	0.07	0.33	1.0	1.9
8	1.0	5	0.06	0.31	1.0	1.9
9	1.0	5	0.06	0.29	1.0	2.0

Pier Width (in)			4
Pier Length (in)			6
Pier Width (ft)		a	0.33
Pier Length (ft)		L	0.5
K1[2]	Square Nose		1.1
Angle (deg)			90
Angle (rad)			1.57
K2[3]	Square Nose		1.302
K3[4]	Plane Bed		1.1

Local Scour Equation (Equation 7.1)

$$y_s = 2.0 K_1 K_2 K_3 \left(\frac{a}{y_1}\right)^{0.65} Fr^{0.43} y_1$$

Froude Number

$$F = \frac{V}{\sqrt{g y_1}}$$

[1] Equation 7.1 FHWA HEC 18
[2] Correction factor for pier nose shape Table 7.1
[3] Correction factor for angle of attach Equation 7.4
[4] Correction factor for bed condition Table 7.3
[5] Local scour based on maximum depth of flow

Appendix E PHASE I ENVIRONMENTAL SITE ASSESSMENTS

E.1 PHASE I ENVIRONMENTAL SITE ASSESSMENT BALDY MESA SOLAR



Phase I Environmental Site Assessment

Baldy Mesa Solar

North of El Mirage Road, South of Colusa Road

West of Raccoon Avenue, and East of Vinton Road

Adelanto, San Bernardino County, California

August 2, 2019

Terracon Project No. 60197256



Prepared for:
sPower
Long Beach, California

Prepared by:
Terracon Consultants, Inc.
Tustin, California

terracon.com

Terracon

Environmental • Facilities • Geotechnical • Materials

August 2, 2019

sPower
5000 East Spring Street, Suite 130
Long Beach, CA 90815

Attn: Mr. Dallas Pugh
P: (562) 348-1119
E: dallas.pugh@spower.com

Re: **Phase I Environmental Site Assessment**
Baldy Mesa Solar
North of El Mirage Road, South of Colusa Road
West of Raccoon Avenue, and East of Vinton Road
Adelanto, San Bernardino **County**, California 92301
Terracon Project No. 60197256

Dear Mr. Pugh:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with our Master Services Agreement, dated September 18, 2017, Task Order 26, dated July 10, 2019 and Terracon Proposal No. P60197256 executed on July 10, 2019.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed **information on all of Terracon's** services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Eric J. St Michel
Staff Scientist

Noaman, Sami
Digitally signed by Noaman, Sami
DN: cn=Noaman, Sami, ou=General Users, email=Sami.Noaman@terracon.com
Date: 2019.08.05 10:37:43 -07'00'

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

Cliff Nale, P.G.
California Licensed Geologist No. 7603

Attachments

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EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with our Master Services Agreement, dated September 18, 2017, Task Order 26, dated July 10, 2019 and Terracon Proposal No. P60197256 executed on July 10, 2019. and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Islam (Sami) R. Noaman E.I.T., Environmental Professional. Eric J. St Michel performed the site reconnaissance on July 23, 2019.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is located north of El Mirage Road, south of Colusa Road, west of Racoon Avenue and east of Vinton Road in Adelanto, San Bernardino County, California, and consists of an approximately 1,197 acres of primarily undeveloped land delineated as Sections 1 through 5 (Section 1 – 285.147 acres, Section 2 – 57.712 acres, Section 3 – 309.169 acres, Section 4 – 379.099 acres, and Section 5 – 166 acres. In addition, the site consists of an approximately 4.76-mile proposed 115 kV Gen-Tie line extending south along Raccoon Avenue, east along Air Expressway and north along Delicious Street. At the time of the site reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on a review of the historical information, the site consisted of undeveloped land from 1948 to 1952. Between 1956 and 1978 a single residential dwelling can be observed on the western boundary of Section 3 of the site. By 1995, the residential dwelling was cleared and Sections 1 through 5 resembled the current layout of the site. The proposed gen-tie line of the site has consisted of primarily undeveloped and/or vacant land from the late 1940s through the present.

Based on a review of the historical information, the surrounding area has remained largely undeveloped. Residential dwellings can be observed north of Section 4 beginning in 1978. The land surrounding the generator tie-line has consisted of mostly undeveloped land, with scattered residential housing tracts beginning in 1985. The existing Level 3 Communications facility (further discussed in Section 4.1.) located to the southwest of Section 5 of the site was developed in the mid-2000s. The existing Richardson Park located to the east of the proposed gen-tie and Southern California Edison Substation east of Delicious Street was developed in the mid-1990s and have remained relatively unchanged through the present.

Records Review

Terracon reviewed selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies. The site was not identified on the regulatory database. The identified facilities listed in the database report do not appear to represent RECs to the site at this time, based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Based on a review of the National Pipeline Mapping System (NPMS), there is a hazardous liquid (petroleum) pipeline that travels along El Mirage Road on the northern side of the street and a gas transmission pipeline located on a portion of El Mirage Road, adjacent to a small portion of Section 4 and Section 5 of the site. The pipelines are not listed in the regulatory database and a release was not identified in the regulatory review. Based on the absence of reported releases and regulatory status, the off-site identified pipelines do not represent a REC to the site.

Site Reconnaissance

During the site reconnaissance, petroleum pipeline markers and rubber tires, two boats and household trash were observed. RECs were not identified.

Adjoining Properties

Colusa Road abuts Sections 1 and 3 of the site to the north followed by undeveloped land. Undeveloped land and Fremont Wash to the north of Section 2 of the site. The property east of Sections 3 and 5 of the site consists of Raccoon Avenue followed by undeveloped land. The property south of Sections 1, 4, and 5 of the site consists of primarily undeveloped land. The property to the southwest of Section 5 of the site consists of Level 3 Communications (8981 Koala Road) facility. The property west of Section 1 of the site consists of undeveloped land. The property centrally adjoining to Sections 1, 2, & 4 of the site consists of the Fremont Wash and undeveloped land. The property centrally adjoining to Sections 3, 4, & 5 of the site consists of primarily undeveloped land, residences North of Section 4 and transmission lines between Sections 4 and 5. Residential neighborhoods south of El Mirage Road, West of Raccoon Avenue, and north of Air Expy. Richardson Park east of Delicious Street and a SCE Substation north of Lawson Avenue were identified adjoining to the proposed gen-tie line. RECs were not observed with the adjoining properties.

Significant Data Gaps

Significant data gaps were not identified.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-13 of the 1,197 acres of land (Baldy Mesa Solar), located at north of El Mirage Road, south of Colusa Road, west of Racoon Avenue, and east of Vinton Road in Adelanto, San Bernardino

County, California, the site. RECs, vapor intrusion concerns or Controlled RECs (CREC) were not identified in connection with the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this assessment, Terracon did not identify RECs in connection with the site. As such, no additional investigation is recommended at this time.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Baldy Mesa Solar
Site Location/Address	North of El Mirage Road, south of Colusa Road, west of Raccoon Avenue and east of Vinton Road in Adelanto, San Bernardino County, California
Land Area	Approximately 1,197 acres of non-contiguous undeveloped land and an approximately 4.76-mile proposed 115 kV Gen-Tie line extending south along Raccoon Avenue, east along Air Expressway and north along Delicious Street.
Assessor Parcel Numbers (APNs)	045805251, 045805311, 045805312, 045805314, 045805317, 045805326, 045805327, 045805328, 045805337, 045805345, 045805350, 045805357, 045805358, 045805361, 046062125, 045811301, 045811302, 045811303, 045811304, 045811305, 045811306, 045811307, 045811316, 045811322, 045811362, 045811363, 045936123, 045936124, 045936168, 045936126, 045937101, 045937102, 045937139, 045937140, 045937142, 045937143, 045937144, and 045937145
Site Improvements	Undeveloped land
Anticipated Future Site Use	Solar Farm
Purpose of the ESA	Solar Development

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibits 2 and 2A of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with our Master Services Agreement, dated September 18, 2017, Task Order 26, dated July 10, 2019 and Terracon Proposal No. P60197256 executed on July 10, 2019 and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.” By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of sPower. Use or reliance by any other party is prohibited without the written authorization of sPower and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Mr. Dallas Pugh, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Ranging from 2,800 to 2,900 feet above mean sea level	USGS Topographic Map, Adelanto/Victorville NW, California, Dated 2018 (Appendix A).
Topographic Gradient	Gently sloping towards the southwest.	
Closest Surface Water	Fremont Wash runs through the site	
Soil Characteristics		
Soil Type	Cajon sand – Somewhat excessively drained, with slopes of 0-2 percent. A typical profile consists of 0-64cm sand, 64cm-114 cm gravelly sand and 114cm-152cm stratified sand to loamy fine sand. Hendale-Bryman Loamy Sands – Well drained, with slopes of 2-5 percent. A typical profile consists of 0cm-15 cm loamy sand, 15cm-168 cm sandy loam, 168cm-251 cm loamy sand and 168cm-251cm sandy loam.	ERIS Physical Setting Report, July 18, 2019, Appendix C.
Description		

Physical Setting Information		Source
	Lavic loamy fine sand – moderately well-drained, a typical profile consists of 0cm-51cm, loamy sand 25cm-51cm, 51cm-124cm loam, 124cm-152cm stratified sand to loamy sand.	
Geology/Hydrogeology		
Formation	Quaternary (Q) – quaternary alluvium, lake, playa and terrace deposits, unconsolidated and semi consolidated. Carboniferous marine rocks © – shale, sandstone, conglomerate, limestone, dolomite, chert, hornfels, marble, quartzite, in part pyroclastic rocks.	ERIS Physical Setting Report, July 18, 2019, Appendix C.
Description		
Estimated Depth to First Occurrence of Groundwater	Greater than 53 feet below ground surface (bgs); groundwater well located approximately 280 feet west of the site.	Geotracker GAMA Groundwater Well Data, Well IDs 06N06W13R0001S and 06N06W13R0002S.
*Hydrogeologic Gradient	Not known – may be inferred to be parallel to topographic gradient (primarily to the southwest).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15-year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from ERIS to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic map:
  - Victorville, California, **1956** (15 Minute)
  - Adelanto, California, **1956**; **1968**; **1980**; **1993**; **2015** (7.5 Minute)
  - Victorville Northwest, California, **1956**; **1968**; **1993**; **2015** (7.5 Minute)

- Aerial photograph:
  - USAF, **1948**, 1"=2000'
  - USGS, **1952**; **1968**; **1978**, 1"=2000'
  - ASCS, **1959**, 1"=2000'
  - NHAP, **1985**, 1"=2000'
  - NAIP, **2005**; **2012**; **2018**, 1"=2000'

Historical Maps and Aerial Photographs

Direction	Description
Site	**Sections 1 through 5 –** Undeveloped land, apparent creek on Section 1 and 2 (1948-1952); single residential dwelling can be observed on the western boundary of Section 3 of the site, creeks depicted on Sections 1 through 5 (1956-1978); Approximately three unpaved roads are observed which travel through Section 5, Section 4 and Section 1 of the Site (1985); Additional unpaved roads can be observed in Sections 1 and 3 of the site (1995); residential dwelling is no longer depicted on western boundary of Section 3, undeveloped and/or vacant land (2005-2018). **Gen-Tie Line –** Undeveloped land (1948); Portions of El Mirage Road and Air Expressway Boulevard can be observed (1952-1968); Raccoon Avenue and Delicious Street can now be depicted as unpaved roads (1978-1985) A portion of Air Expressway Boulevard is seen as paved (1995-2018).
North	**Sections 1, 2, & 3 –** Undeveloped land (1948-1952); three residential dwellings can be observed north of Section 4 (1956-1968); only two residential dwellings can be observed north of Section 4 and Colusa Road can be observed traveling in a west to east direction north of Section 1, 2 and 3 (1978); an additional residential dwellings has been built north of Section 4 (1985); a single residential dwelling can be observed north of Section 5 (1995-2018) **Gen-Tie Line –** Undeveloped land (1948-1985); residential dwellings have been built north of Raccoon Avenue and Air Expressway as well as the SCE substation which is now visible.
East	**Sections 3 & 5 –** Undeveloped land (1948-1968); multiple unpaved road can be observed (1978-2018) **Gen-Tie Line –** Undeveloped land and Chamberlaine Way which appear to be paved (1948-1952); possible residential dwellings abutting the tie-line location near the center of Raccoon Avenue (1956-1978); multiple unpaved roads can now be observed (1985); Residential dwellings are now observed east of Raccoon Avenue (1995-2018).

Direction	Description
South	**Sections 1 4, & 5 –** El Mirage Road can be observed followed by undeveloped land (1948-1968); a residential housing tract can be observed across El Mirage Road near the southern most portion of Section 5 of the site, also, what appears to be a commercial building can be observed across El Mirage Road southern most portion of the Section 4 (1978-1995); multiple unpaved roads can be observed past El Mirage Road (2005-2018). **Gen-Tie Line –** Undeveloped land (1948-1985); multiple unpaved road south of Air Expressway Boulevard as well as the Adelanto RV Park which is located south of Air Expressway and Bellflower Street (1995-2018).
West	**Section 1 –** Undeveloped land (1948-1956); a small structure can be observed southwest of the property which appears to be the location of the Level 3 Telecommunications is situated, also, vacant land followed by the Shadow Mountain Chicken Ranch which can be observed west of Section 4 of the site (1959-1995); an additional two telecommunication buildings can be observed (2005-2018). **Gen-Tie Line –** A residential dwelling can be observe near El Mirage Road and Raccoon Avenue, additionally, Chamberlaine way can be observed as a paved road (1948-1952); Multiple unpaved roads can be observed (1959-1978); A residential housing tract is being building near the intersection of El Mirage road and Raccoon Avenue (1985-2018).
Central Adjoining - Sections 1, 2, & 4	Undeveloped land and a creek (1948-1985); Fremont Wash (1994-2018).
Central Adjoining – Sections 3, 4, & 5	Undeveloped land and a creek (1948-2018).

3.2 Historical City Directories

The Digital Business Directory and Haines city directories used in this study were made available through ERIS (1971 to 2018) and were reviewed at approximate five-year intervals, if readily available. The site is currently unaddressed.

Historical City Directories

Direction	Description
Site	Unaddressed Parcels – no listings available
North	Unaddressed Parcels **9567 De Soto Avenue** – no listings available.
East	Unaddressed Parcels **20039 Muskrat Avenue –** no listings available.

Direction	Description
South	**8870 Mirage Road** – Warren, Coy (1988); no listings (1995-2018). **8801 El Mirage Road –** Aerochem Inc. (1988-2002); no listings (1995-2018).
West	**8981 Koala Road** – no listings available. **19408 Koala Road –** no listings available. **19402 Koala Road –** no listings available.

3.3 Site Ownership

According to Mr. Dallas Pugh, owner representative, the current owner of the site is sPower.

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individuals were interviewed regarding the current and historical use of the site.

Interviews

Interviewer	Name / Phone #	Title	Date/Time
Eric St. Michel	Mr. Dallas Pugh / (562) 348-1119	Owner Representative	July 16, 2019/ 3:00 PM

Prior to the site reconnaissance, Terracon interviewed Dallas Pugh, Permitting Manager for sPower. Mr. Pugh reported the following:

- The site is currently vacant land and there were no access restrictions at the time of the site reconnaissance.

- Mr. Pugh was not aware of any pending, threatened or past environmental litigation proceedings or notices of possible violations of environmental laws or liability or potential environmental concern in connection with the site.

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERC	Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS	0.5	0
EC	Federal Engineering Controls-ECs	0.5	0
ERN1	Emergency Response Notification System	Site	0
ERN2	Emergency Response Notification System	Site	0
ERNS	Emergency Response Notification System	Site	0
FRS	Facility Registry Service/Facility Index	Site	0
HMIR	Hazardous Materials Information Reporting System	0.10	0
HTSC	Hist TSCA	0.10	0

Database	Description	Distance (miles)	Listings
IC	Federal Institutional Controls- ICs	0.5	0
IODI	EPA Report on the Status of Open Dumps on Indian Lands	0.5	0
NCDL	National Clandestine Drug Labs	Site	0
NPL	National Priority List	1.0	0
ODI	Inventory of Open Dumps, June 1985	0.5	0
RCOR	RCRA CORRACTS- Corrective Action	1.0	0
RGEN	RCRA Generator List	0.25	0
RNGN	RCRA Non-Generators	0.25	4
TRIS	Toxics Release Inventory (TRI) Program	Site	0
TSCA	Toxic Substances Control Act	0.10	0

State/Tribal Databases

Database	Description	Distance (miles)	Listings
AST	Aboveground Storage Tanks	0.25	2
CHMR	California Hazardous Material Incident Report System (CHMIRS)	Site	0
ENVS	EnviroStor Database	1.0	0
HLUR	Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions	0.5	0
HWF	EnviroStor Hazardous Waste Facilities	1.0	0
ILST	Leaking Underground Storage Tanks (LUSTs) on Indian Lands	0.5	0
IUST	Underground Storage Tanks (USTs) on Indian Lands	0.25	0
LDS	Land Disposal Sites	0.5	0
LUR	Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions	0.5	0
LUST	Leaking Underground Fuel Tank Reports	0.5	5
RESP	State Response Sites	1.0	0
SCH	School Property Evaluation Program Sites	1.0	0
SWAT	Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report	0.5	0
SWF	Solid Waste Information System (SWIS)	0.5	0
UST	Permitted Underground Storage Tank (UST) in GeoTracker	0.25	0
VCP	Voluntary Cleanup Program	1.0	0

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix D.

The site was not identified in the regulatory database.

The following table summarizes the site-specific information provided by the database and/or gathered by this office for identified facilities. Facilities are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

Listed Facilities

Facility Name And Location	Estimated Distance / Direction/Gradient	Database Listings	Is a REC, CREC, or HREC to the Site
SCE Substation Lawson and Delicious Street	Adjoining / North of gen-tie line / Up-gradient	AST, CERS HAZ, FINDS/FRS	Not a REC, discussed below.
So Cal Edison Bellflower and Air Express Way	Adjoining / North or South / Up or down-gradient	CHMIRS	Not a REC, discussed below.
Level 3 Communications/ EC Power Systems 19408 Koala Road	105 feet / West of Section 5 / Down-gradient	CERS HAZ, SANERN CUPA, EMISSIONS, FINDS/FRS, HAZNET	Not a REC, discussed below.
Level 3 Communications 19402 Koala Road	120 feet / Southwest of Section 5 / Down-gradient	SANBERN CUPA, FINDS/FRS,	Not a REC, based on regulatory status and topographic down-gradient location.
Williams Communications 19402 Koala Road		EMISSIONS	
Level 3 Communications 8981 El Mirage Road	130 feet/ Southwest of Section 5 / Down-gradient	AST, SANBERN CUPA, EMISSIONS, FINDS/FRS	Not a REC, discussed below.
Integra Telecom Adelanto 8981 El Mirage Road		EMISSIONS	
Broadwing Communications Adelanto 8981 El Mirage Road		FINDS/FRS, HAZNET, EMISSIONS	
Aerochem Inc. 8801 El Mirage Road	740 feet / South-southwest of Section 4 / Down Gradient	LUST	Not a REC, based on distance and groundwater gradient.

Lawson and Delicious Street

Southern California Edison (SCE) Roadway Substation, located to the adjoining north of the proposed gen-tie line, is listed on the AST, CERS HAZ and FINDS/FRS regulatory databases. As reported by the FINDS/FRS databases, this site is the electric power distribution substation for SCE. As documented by the CERS HAZ and AST databases, this site has a single above ground storage tank (AST) that is 9,625 gallons in size, contents of which are not described in the

database. The Lawson and Delicious Street SCE substation is where the beginning/end of the generator tie-line will be connected. Based on the facility's regulatory status and absence of reported releases and/or violations, the SCE Roadway Substation does not represent a REC to the site.

Bellflower and Air Express Way

SCE reported at the Bellflower and Air Expressway, located adjoining north or south and in a topographic up or down-gradient position to the proposed gen-tie line, is listed in the California Hazardous Material Incident Reporting System (CHMIRS) regulatory database. Based on a review of the listing, on September 12, 2013, mineral oil, a non-polychlorinated biphenyl (PCB) substance was released due to a tractor trailer hitting a pole. Originally, the incident was listed as having happened at the intersection of Bellflower and Air Expressway, however, the actual location was updated within the database and stated the release actually occurred at 11366 Chamberlane Way, which is approximately ¾ mile north of the generator tie-line. Based on the distance of the actual location of the release, this database listing does not represent a REC to the site.

19408 Koala Road

Level 3 Communications/ EC Power Systems, located approximately 105 feet west of Section 5 of the site and in a topographic down-gradient position relative to the site, is listed on the CERS HAZ, SANBERN CUPA, EMISSIONS, FINDS/FRS and HAZNET databases. As reported by the databases, this facility is classified as a telephone communication station that has an active permit for hazardous material 1-3. Based on the facility's regulatory status and topographic down gradient position relative to the site, the Level 3 Communication/ EC Power Systems does not represent a REC to the site.

8981 El Mirage Road

Level 3 Communications/ Integra Telecom/ Broadwing Communications, located approximately 130 feet southwest Section 5 of the site in a topographic down-gradient location, is listed in the AST, SANBERN CUPA, EMISSIONS, FINDS/FRS and HAZNET regulatory databases. As reported by the SANBERN CUPA, this facility has an active permit for ASTs and an active permit for Hazardous Materials 1-3. As documented by the AST database, this facility has a 1,494 gallon AST, contents of which are not described. Based upon regulatory status and the facility being topographically down-gradient, Level 3 Communications/ Integra Telecom/ Broadwing does not represent a REC to the site. The remaining facilities listed in the database report do not appear to represent RECs to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed sixteen facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
County of San Bernardino Division of Environmental Health Services / by Fax (909) 387-4323	Terracon received a response from the County of San Bernardino Division of Environmental Health Services stating that there were no available records for the site.
Santa Ana Regional Water Quality Control Board/ by Email (filereview8@waterboards.ca.gov)	Terracon received a response from the Santa Ana Regional Water Quality Control Board does not have any records for the site.
Department of Toxic Substances Control/ by Email (pubreqact@dtsc.ca.gov	Terracon received a response from the Department of Toxic Substances Control stating no records were available for the site.
City of Adelanto City Clerk/ online request sent	Terracon received a response from the City of Adelanto stating they do not have any records for the site APNs.
Mojave Air Quality Management District / by email	An email was received from the Mojave Air Quality Management District stating that their system only has records associated with addresses, and as the site does not contain any addresses, would result in no records found.

4.3 Local Area Knowledge

Based on a review of the California Department of Conservation Division of Oil, Gas & Geothermal Well Finder website (http://maps.conservations.ca.gov/doggr), there are no oil or gas production wells located at the site or surrounding areas.

Based on a review of the National Pipeline Mapping System (NPMS), there is a hazardous liquid (petroleum) pipeline that travels along El Mirage Road on the northern side of the street and a gas transmission pipeline located on a portion of El Mirage Road, adjacent to a small portion of Section 4 and Section 5 of the site. The pipelines are not listed in the regulatory database and a release was not identified in the regulatory review. Based on the absence of reported releases and regulatory status, the off-site identified pipelines do not represent a REC to the site.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibits 2 and 2A of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Eric J. St Michel
Reconnaissance Date	July 23, 2019
Weather Conditions	Sunny, 85˚F
Site Contact/Title	N/A

5.2 Overview of Current Site Occupants

The site is located north of El Mirage Road, south of Colusa Road, west of Racoon Avenue and east of Vinton Road in Adelanto, San Bernardino County, California, and consists of an approximately 1,197 acres of primarily undeveloped land delineated as Sections 1 through 5 (Section 1 – 285.147 acres, Section 2 – 57.712 acres, Section 3 – 309.169 acres, Section 4 – 379.099 acres, and Section 5 – 166 acres. In addition, the site consists of an approximately 4.76-mile proposed 115 kV Gen-Tie line extending south along Raccoon Avenue, east along Air Expressway and north along Delicious Street.

5.3 Overview of Current Site Operations

The site consists of undeveloped land and was unoccupied at the time of the site reconnaissance.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an “X”) are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint booths	

Category	Item or Feature	Observed or Identified
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS or SDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	X
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	
	Surface water discoloration, odor, sheen, and/or free-floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	

Category	Item or Feature	Observed or Identified
	Wastewater lagoons	
	Wells	

Underground Chemical or Waste Storage, Drainage or Collection System

Pipeline Markers

Pipeline markers were located on the northern side of El Mirage Road. The pipeline markers were for a petroleum pipeline and a gas transmission pipeline. Leakage, spills or releases from the pipeline were not observed at the time of the site reconnaissance. These pipelines were not identified in the regulatory database; however, are discussed in Section 4.3. Based on site observation, the pipeline markers do not represent a REC to the site.

Releases or Potential Releases

Trash, debris and/or other waste materials

Rubber tires, two boats and household trash were observed scattered throughout the site. Leakage, spills or releases from these materials were not observed. Based on site observations the rubber tires, boats and household trash do not constitute a REC on the site.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North of Sections 1, 2, & 3	Colusa Road abuts Sections 1 and 3 of the site to the north followed by undeveloped land. Undeveloped land and Fremont Wash to the north of Section 2 of the site.
East of Sections 3 & 5	The property east of Sections 3 and 5 of the site consists of Raccoon Avenue followed by undeveloped land.
South of Sections 1, 4, & 5	The property south of Sections 1, 4, and 5 of the site consists of primarily undeveloped land. The property to the southwest of Section 5 of the site consists of *Level 3 Communications (8981 Koala Road)* facility.
West of Section 1	The property west of Section 1 of the site consists of undeveloped land.
Central Adjoining - Sections 1, 2, & 4	The property centrally adjoining to Sections 1, 2, & 4 of the site consists of the Fremont Wash and undeveloped land.
Central Adjoining – Sections 3, 4, & 5	The property centrally adjoining to Sections 3, 4, & 5 of the site consists of primarily undeveloped land, residences North of Section 4 and transmission lines between Sections 4 and 5.

Direction	Description
Proposed Gen-tie line	Residential neighborhoods south of El Mirage Road, West of Raccoon Avenue, and north of Air Expy. Richardson Park east of Delicious Street and a *SCE Substation* north of Lawson Avenue were identified adjoining to the proposed gen-tie line.

The Level 3 Communications (8981 Koala Road) and SCE Substation facilities were identified in the regulatory database and were previously discussed above in Section 4.1.

RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. asbestos sampling, lead-based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

8.0 DECLARATION

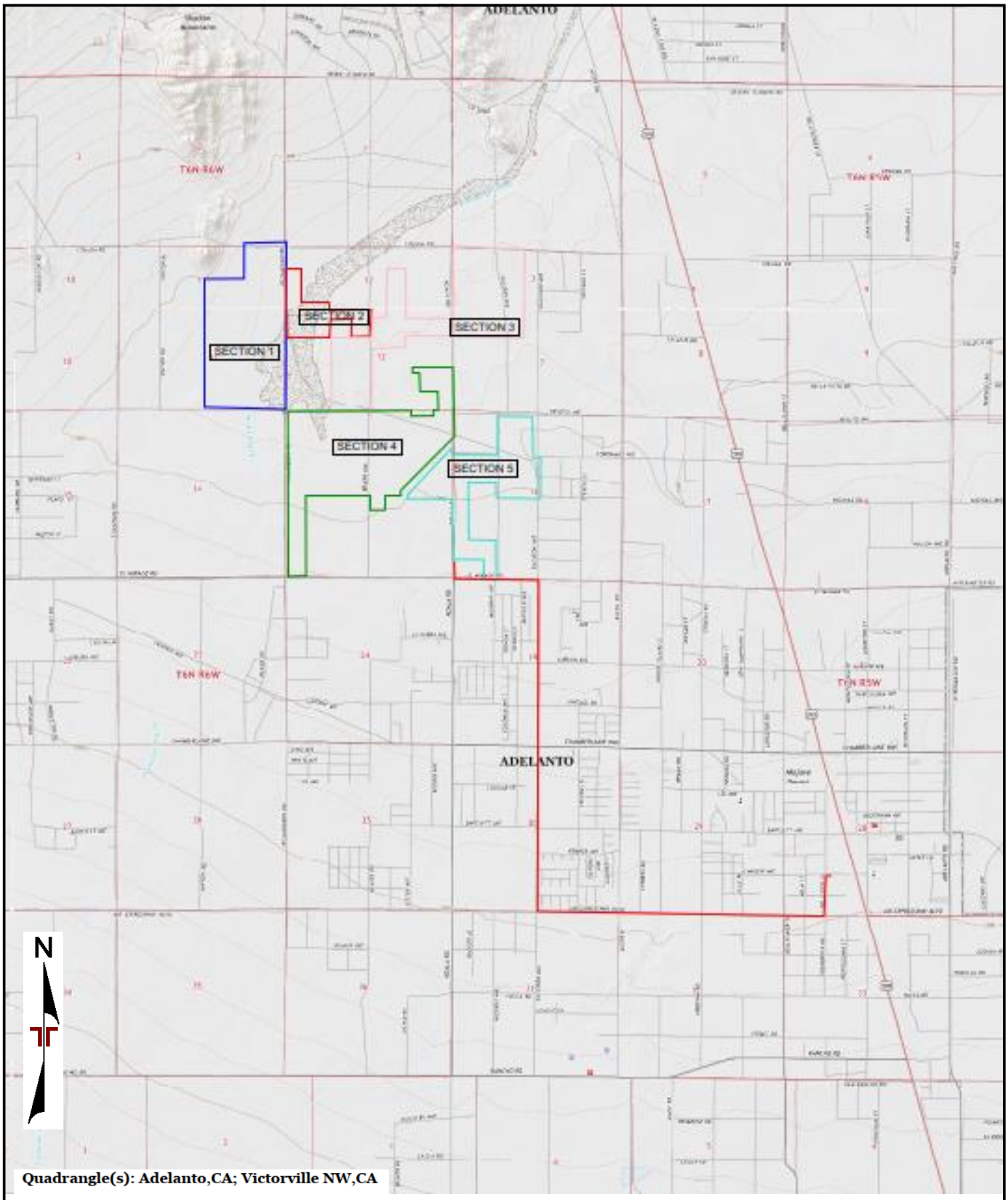
I, Islam (Sami) R. Noaman E.I.T., declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Noaman, Sami

Digitally signed by Noaman, Sami
DN: cn=Noaman, Sami, ou=General Users, email=Sami.Noaman@terracon.com
Date: 2019.08.05 10:38:28 -07'00'

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

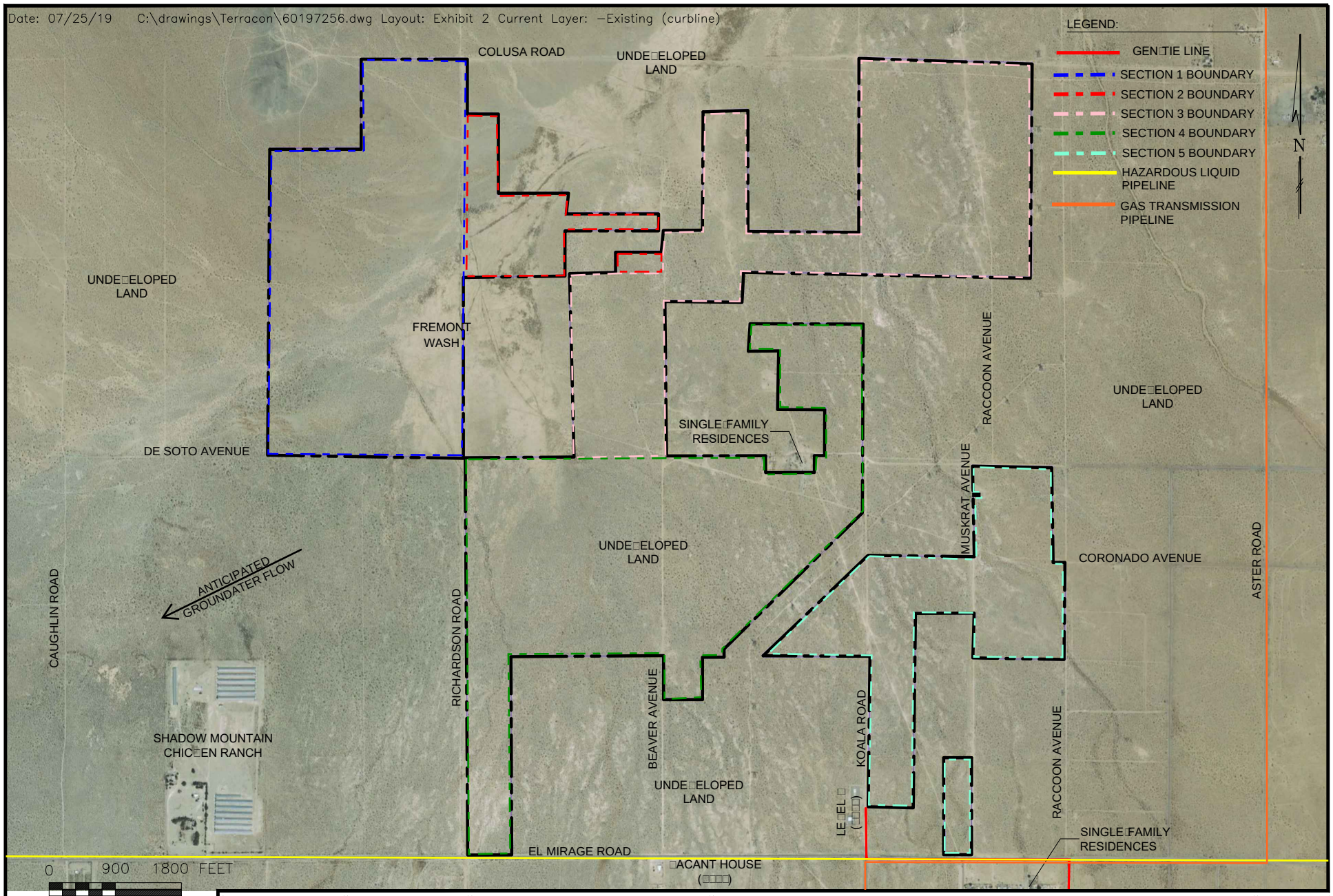
APPENDIX A
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBIT 2 – SITE DIAGRAM
EXHIBIT 2A – GEN-TIE SITE DIAGRAM



Quadrangle(s): Adelanto,CA; Victorville NW,CA

Source: USGS 7.5 Minute Topographic Map

Project Manager: JSV	Project No. 60197256	Terracon 1421 Edinger Ave Suite C Tustin, CA	TOPOGRAPHIC MAP BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	EXHIBIT 1
Drawn by: JSV	Scale: 1:24000			
Checked by: IRN	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

Project Mngr:	GRJ
Drawn By:	NNL
Checked By:	GRJ
Approved By:	IRN

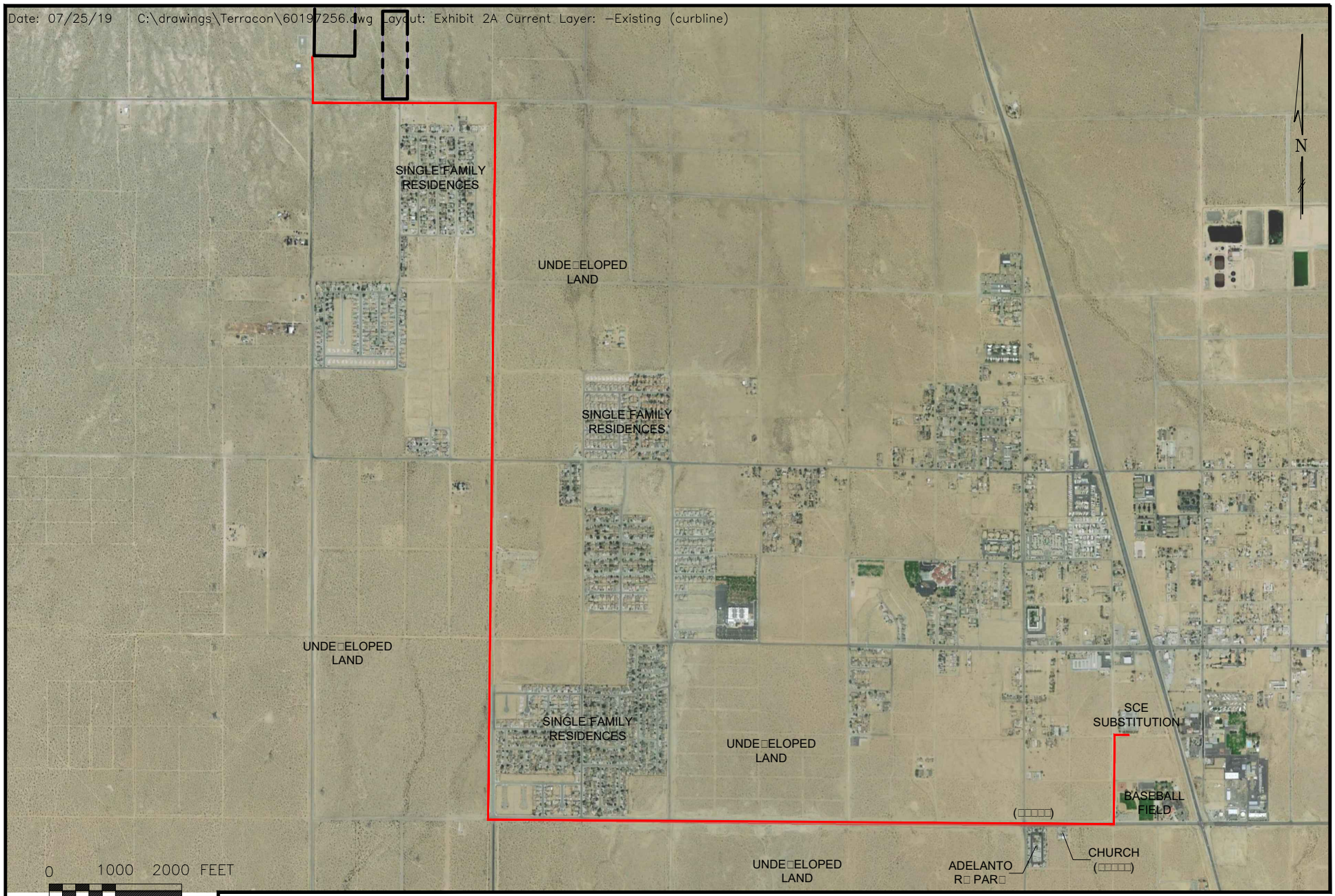
Project No.	60197256
Scale:	AS SHOWN
Date:	07/25/19

Terracon
Consulting Engineers and Scientists
1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780
PH. (949) 261-0051 FAX. (949) 261-6110

SITE DIAGRAM

BALDY MESA SOLAR
N. OF EL MIRAGE ROAD, S. OF COLUSA ROAD, W. OF RACON AVENUE, E. OF VINTON ROAD
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

EXHIBIT 2



APPROXIMATE SCALE

THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

Project Mngr:	GRJ
Drawn By:	NNL
Checked By:	GRJ
Approved By:	IRN

Project No.	60197256
Scale:	AS SHOWN
Date:	07/25/19

Terracon
Consulting Engineers and Scientists
1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780
PH. (949) 261-0051 FAX. (949) 261-6110

GE□ TIE DIAGRAM

BALDY MESA SOLAR
N. OF EL MIRAGE ROAD, S. OF COLUSA ROAD, W. OF RACON AVENUE, E. OF VINTON ROAD
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

EXHIBIT
2A

APPENDIX B
SITE PHOTOGRAPHS



Photo #1 View at Richardson Road and El Mirage road looking west.



Photo #2 Southern adjoining property across El Mirage Road, looking south from Section 4.



Photo #3 View looking east down El Mirage Road.



Photo #4 View of pipeline markers on El Mirage Road.



Photo #5 View of Section 4 looking east.



Photo #6 View of discarded boat which is located on the southern portion of Section 4 of the site.



Photo #7 View of Section 1 looking north.



Photo #8 View of the western adjoining property from Section 1.



Photo #9 View of an additional boat and debris located on the southeastern portion of Section 1.



Photo #10 View of the adjoining undeveloped land east of Section 1 looking east.



Photo #11 Northern adjoining view from Section 2 looking north.



Photo #12 View of Colusa Road and northern adjoining property.



Photo #13 View of the northeastern portion of Section 3.



Photo #14 View undeveloped adjoining property south of Section 3 looking south.



Photo #15 View of discarded tires on Koala Road south of Section 3.



Photo #16 View of adjoining property to the east of Section 4.



Photo #17 View of Muskrat Avenue looking south going into Section 5 of the site.



Photo #18 View transmission poles on the eastern adjoining property of Section 5.



Photo #19 View looking south of Section 4 northern portion.



Photo #20 View of the northern adjoining property from Section 4.



Photo #21 View Section 5 looking east from Koala Road.



Photo #22 Telecommunication station located west of Section 5.



Photo #23 View Level 3 Communication building west of Section 5.



Photo #24 View of an emergency generator on the Level 3 Communication building.



Photo #25 View of additional Communication building located southwest of Section 5.



Photo #26 View of two emergency diesel generators located on the southern most Communication building.



Photo #27 View of propane AST on the southern most communication building.



Photo #28 View looking south down Koala avenue, southern adjoining property from Section 5 followed by El Mirage Road.



Photo #29 View of Shadow Mountain Ranch which is located west down El Mirage Road.



Photo #30 View looking west on Raccoon Avenue for Gen-Tie line.



Photo #31 View of the western side of Raccoon Avenue near Bartlett Drive.



Photo #32 Gen-Tie line – Raccoon Road and Chamberlaine Way.



Photo #33 Western side of Raccoon Avenue near Kemper Avenue.



Photo #34 View across Raccoon Avenue looking south near Aster Road.



Photo #35 View of the Adelanto RV park located south of Air Expressway Road.



Photo #36 View Luz y Esperanza Church intersection of Air Expressway and Palm Street.



Photo #37 View a baseball field located at the corner of Delicious Street and Air Expressway.



Photo #38 View looking north on Delicious Street.



Photo #39 View the SCE substation looking northeast.



Photo #40 Additional view of the SCE substation.



Photo #41 Additional view of the SCE substation.



Photo #42 View unnamed road south of the SCE substation.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Client/User Required Questionnaire

Terracon

Person Completing Questionnaire	Name: Dallas Pugh Phone: (562) 348-1119 Company: sPower Email: dallas.pugh@spower.com
Site Name	Baldy Mesa Solar
Site Address	N/O El Mirage Road, S/O Colusa Road W/O Raccoon Aveunue, E/O Vinton Road, Adelanto, CA 92301
Point of Contact for Access	Name: Dallas Pugh Phone: (562) 348-1119 Company: sPower Email: dallas.pugh@spower.com
Access Restrictions or Special Site Requirements?	X No ___Yes (If yes, please explain)
Confidentiality Requirements?	___No X Yes (If yes, please explain) outlined in MSA
Current Site Owner	Name: Phone: Company: sPower Email:
Current Site Operator	Name: Phone: Company: sPower Email:
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Solar development
Anticipated Future Site Use	Dec. 31, 2020
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.

ASTM User Questionnaire

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___Yes ___Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___Yes (If yes, explain below)

Comments or explanations:

Please return this form with the signed authorization to proceed. Proposal No. P60197256

ENVIRONMENTAL RISK INFORMATION SERVICES

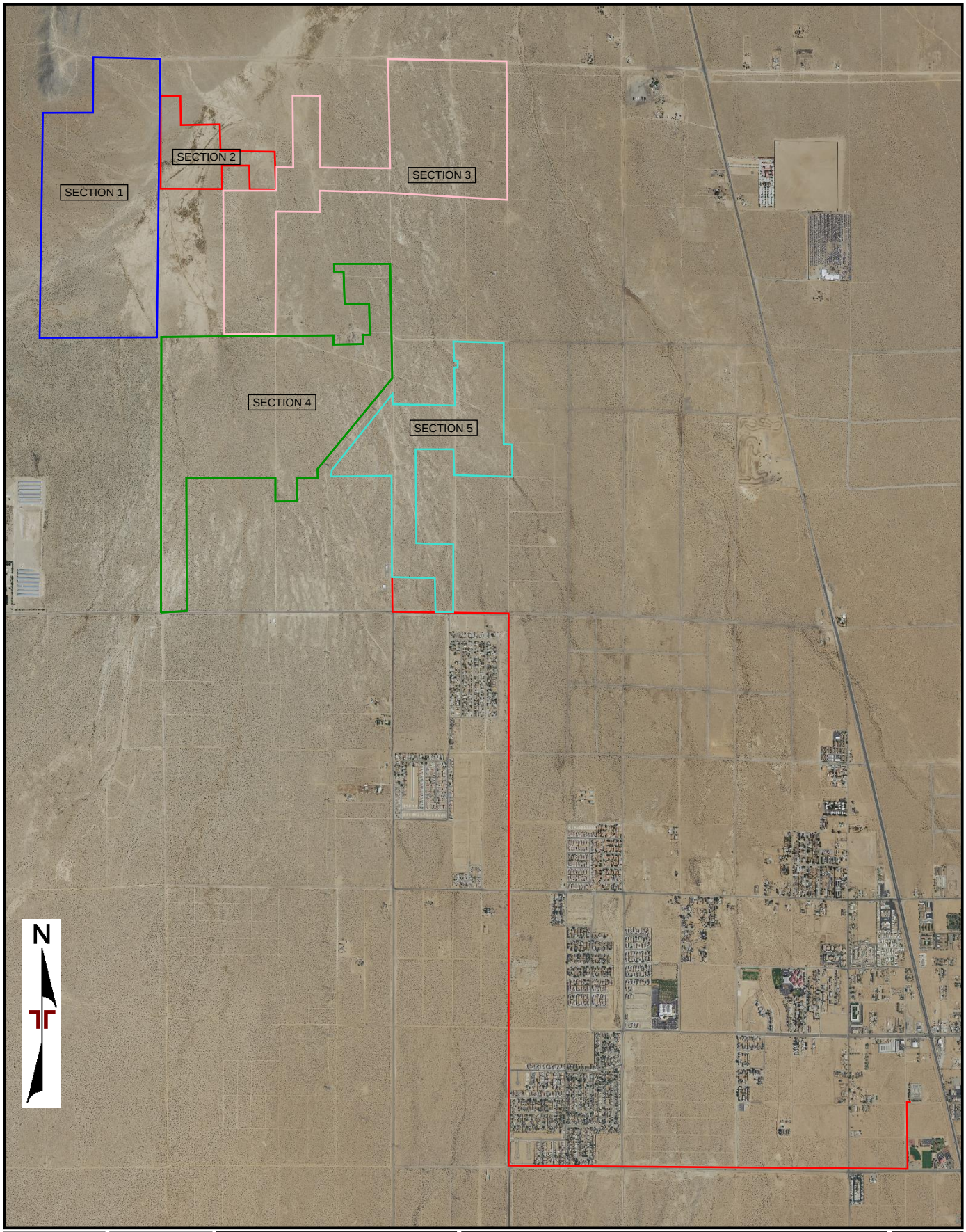
HISTORICAL AERIALS

Project Property: *Baldy Mesa Solar*
Baldy Mesa Solar
Adelanto CA 92301
Project No: *60197256*
Requested By: *Terracon*
Order No: *20190715309*
Date Completed: *July 22, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Date	Source	Source scale	Comment
2018	NAIP	1:24000	
2012	NAIP	1:24000	
2005	NAIP	1:24000	
1995	USGS	1:24000	
1985	NHAP	1:24000	
1978	USGS	1:24000	
1968	USGS	1:24000	
1959	ASCS	1:24000	
1952	USGS	1:24000	
1948	USAF	1:24000	



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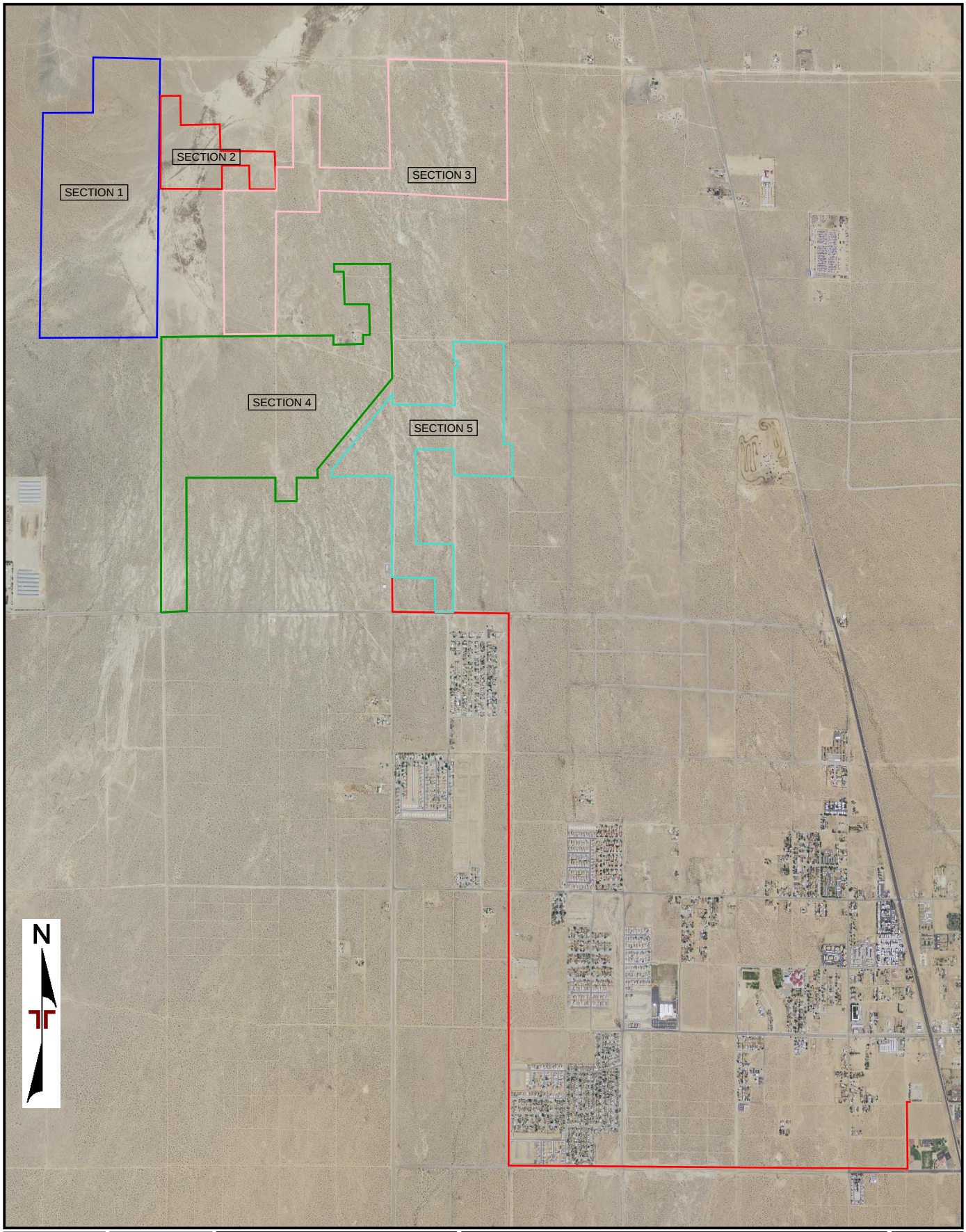
Drawn by: JSV	Scale: 1:24000			
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



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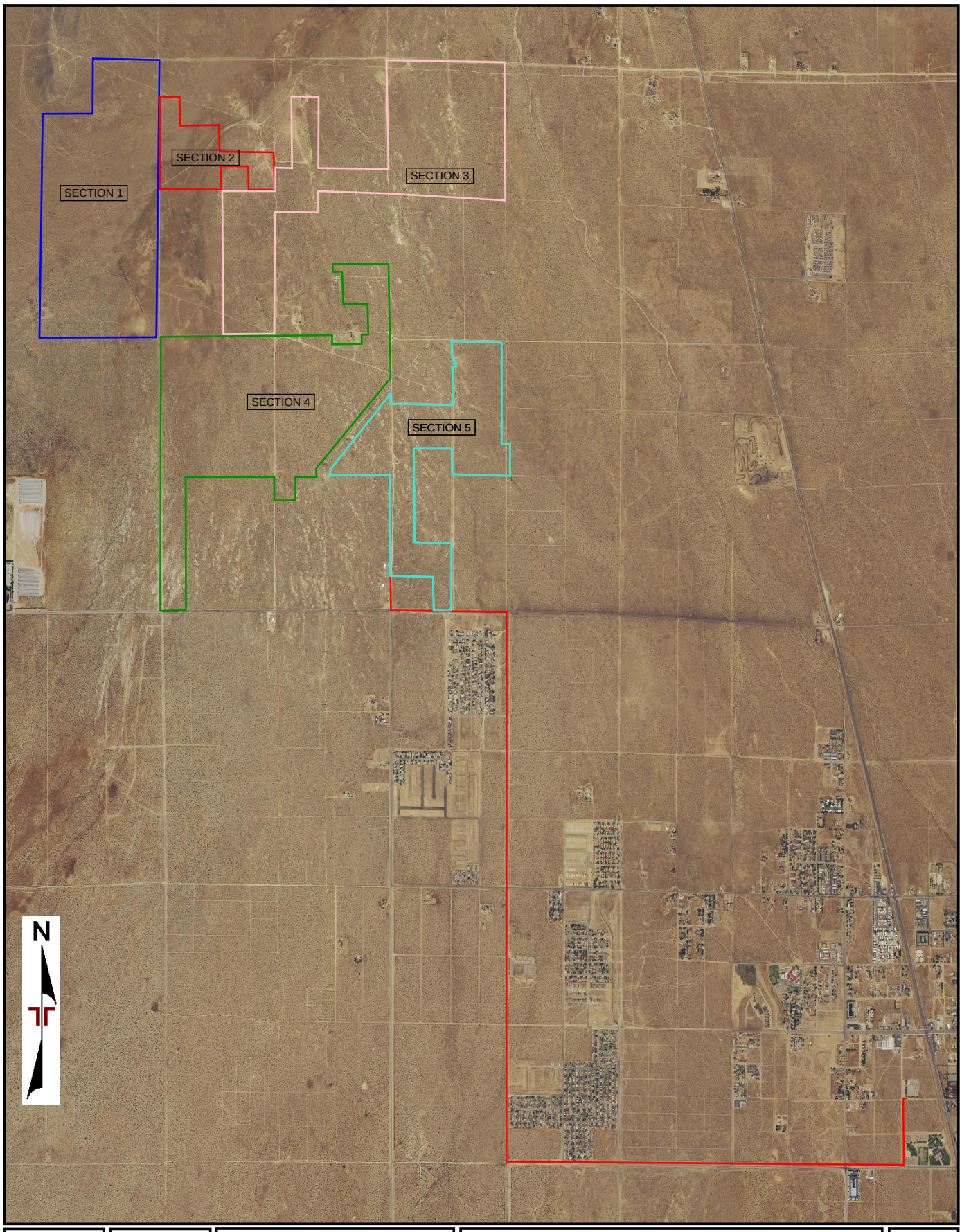
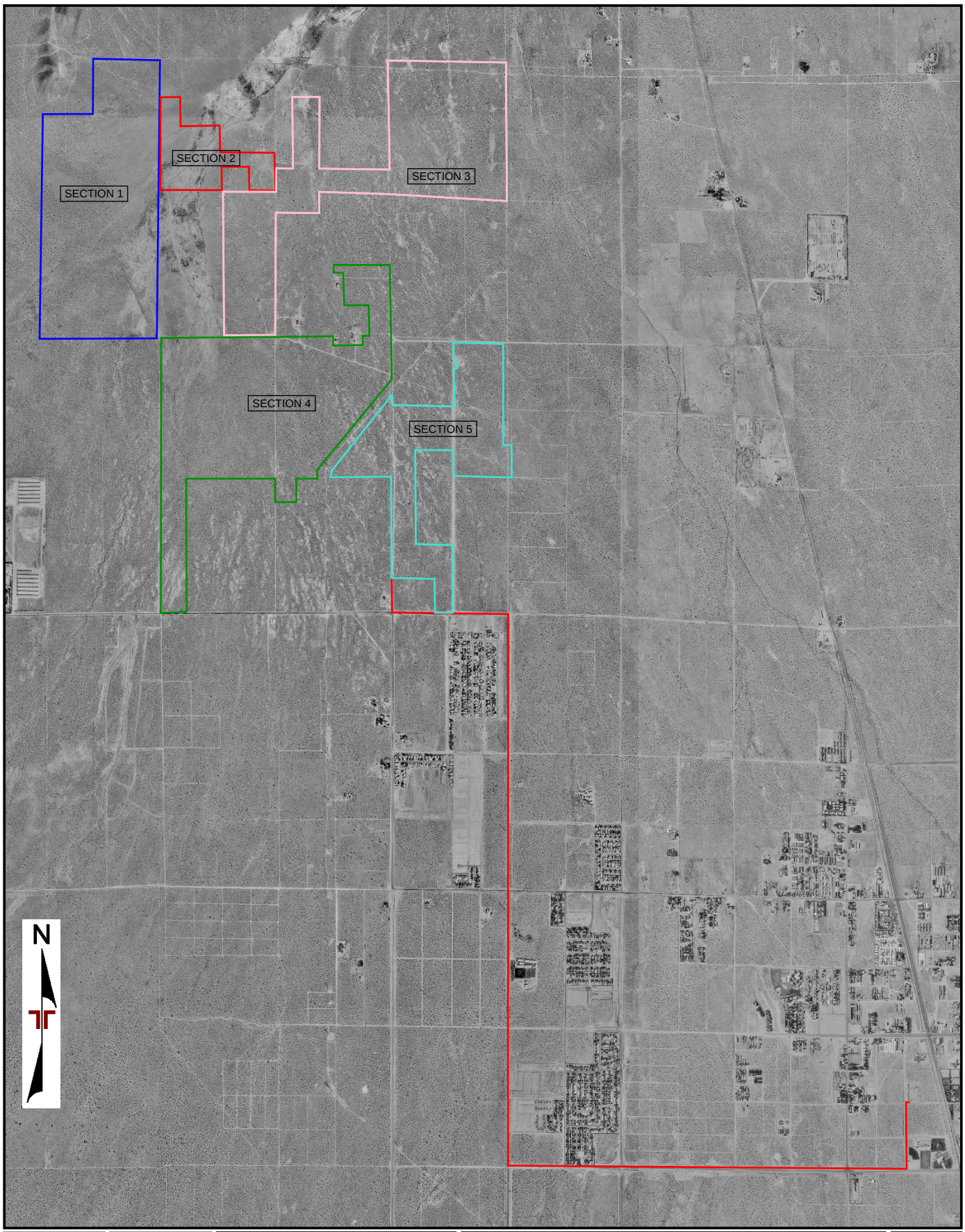
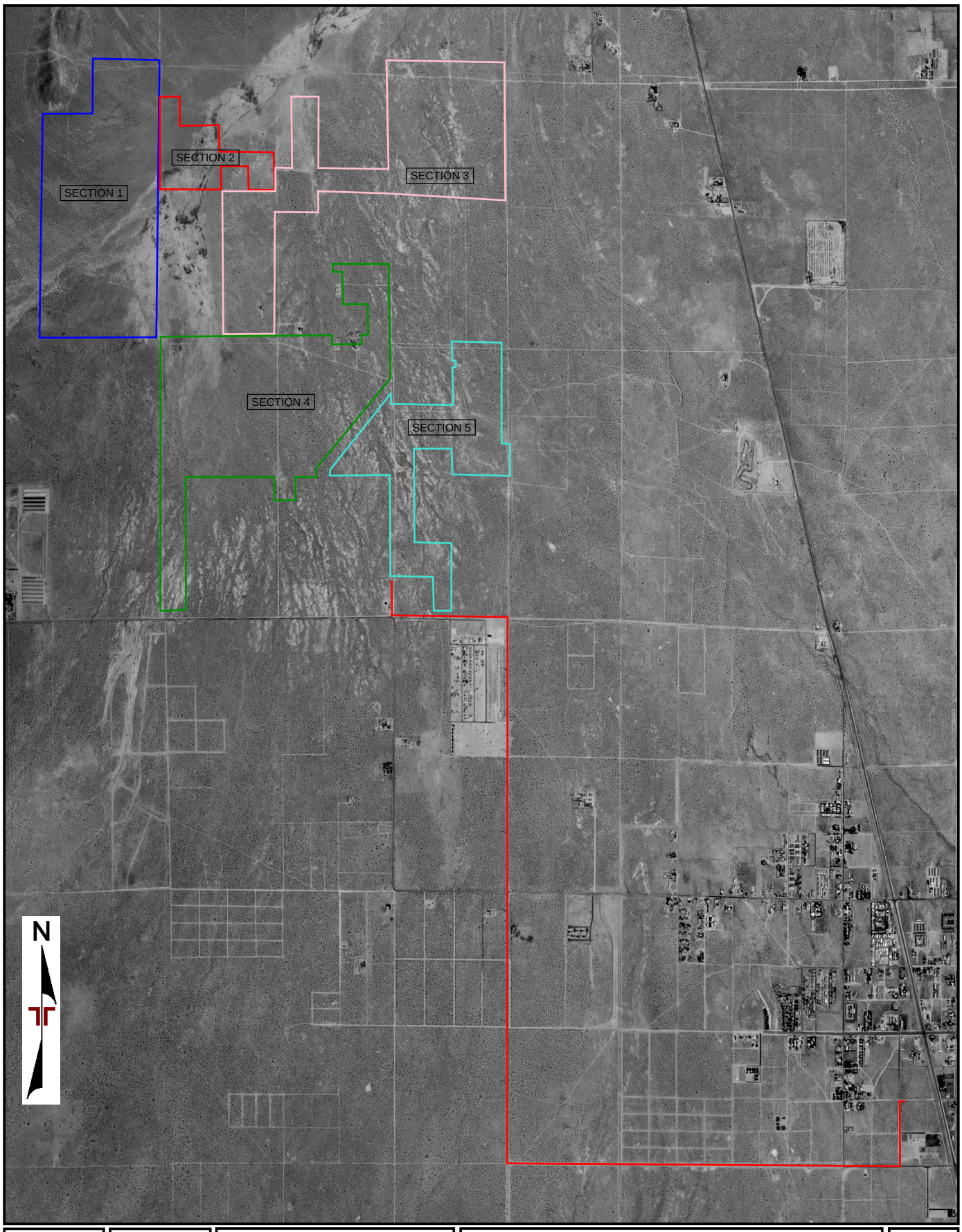
Drawn by: JSV	Scale: 1:24000			C
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



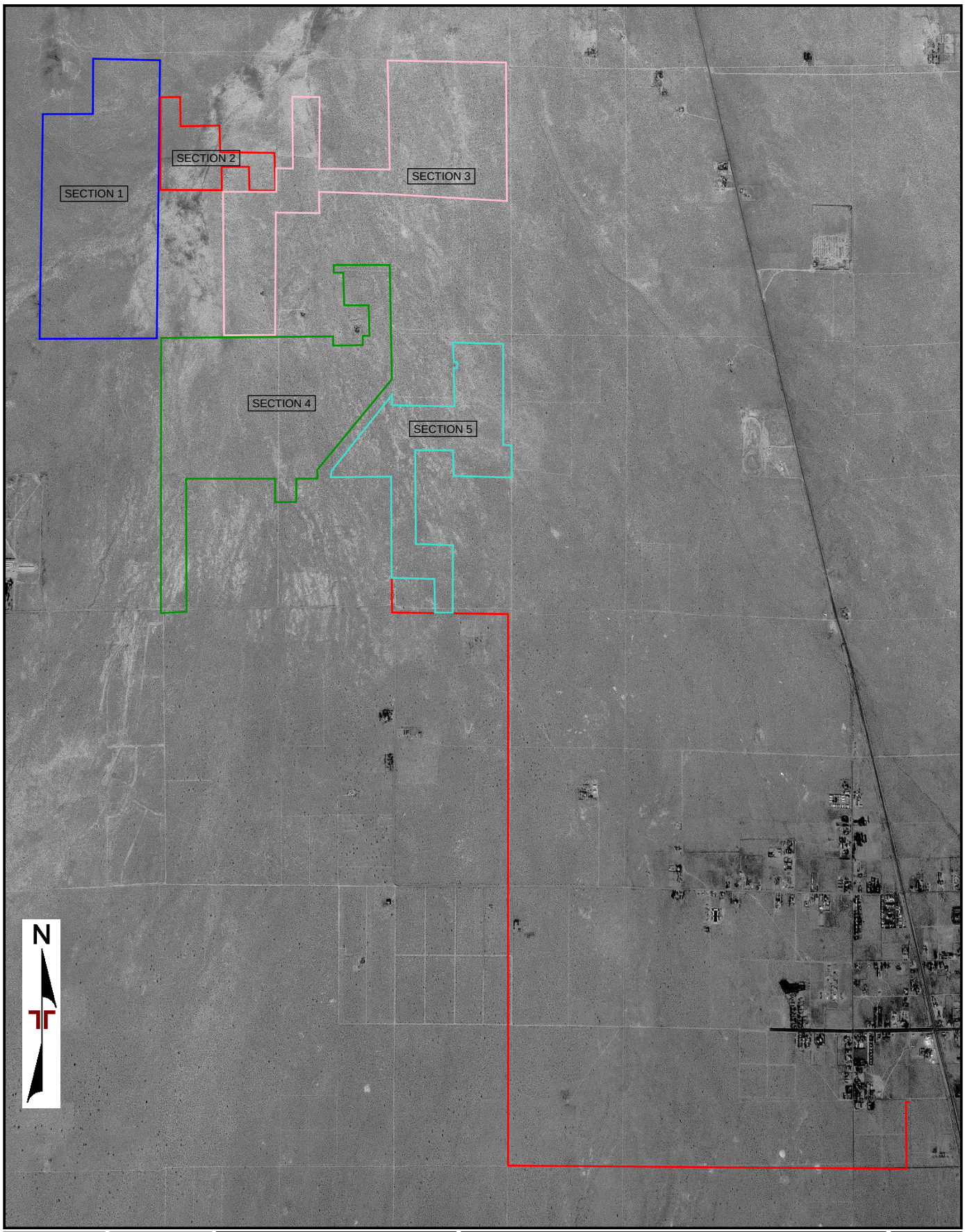
Project Manager: JSV	Project No. 60197256	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (2005-NAIP) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: JSV	Scale: 1:24000			
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



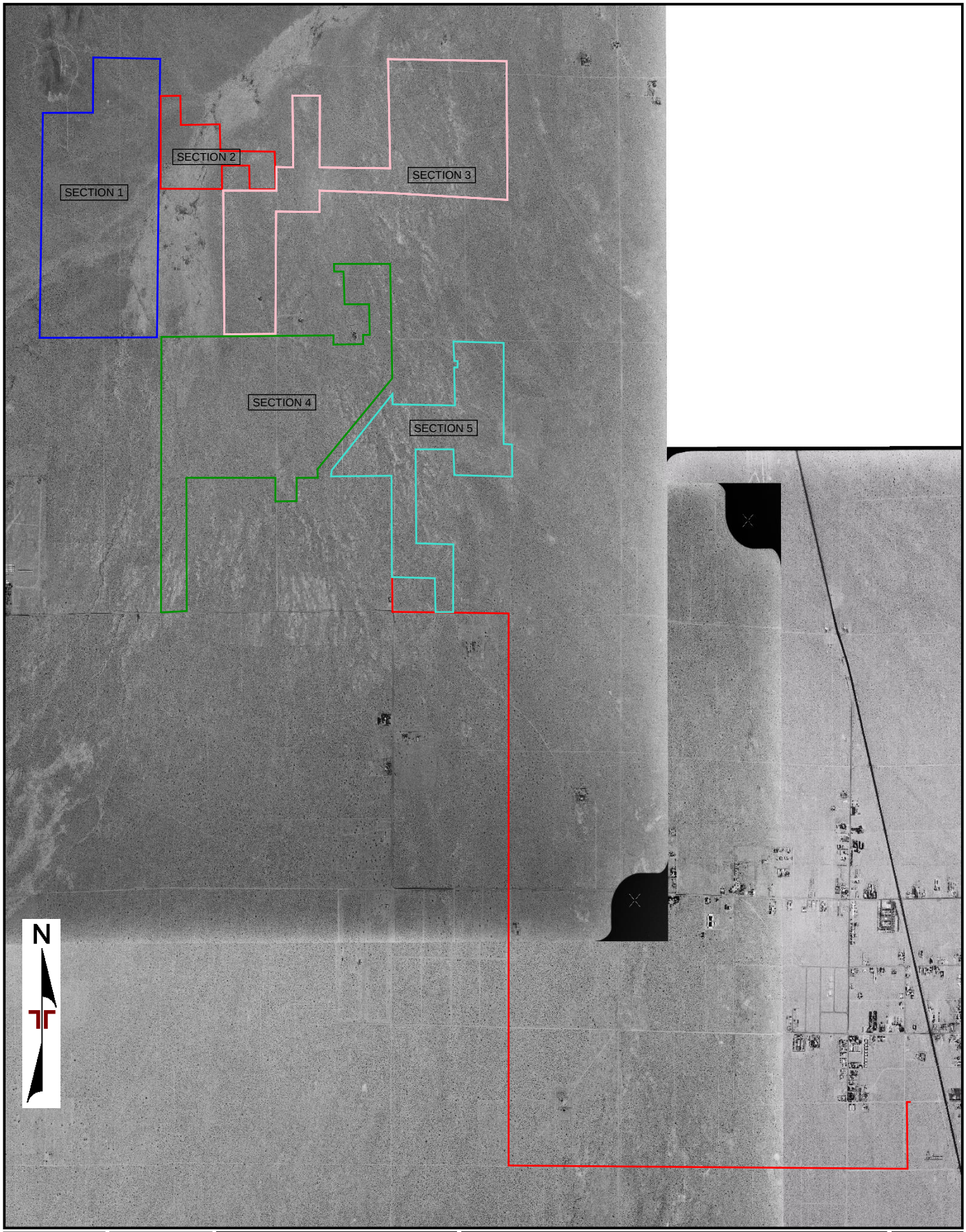
Project Manager: JSV Drawn by: JSV Checked by: JSV Approved by: IRN	Project No. 60197256 Scale: 1:24000 File Name: 20190715309 Date: 2019-07-22	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1995-USGS) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



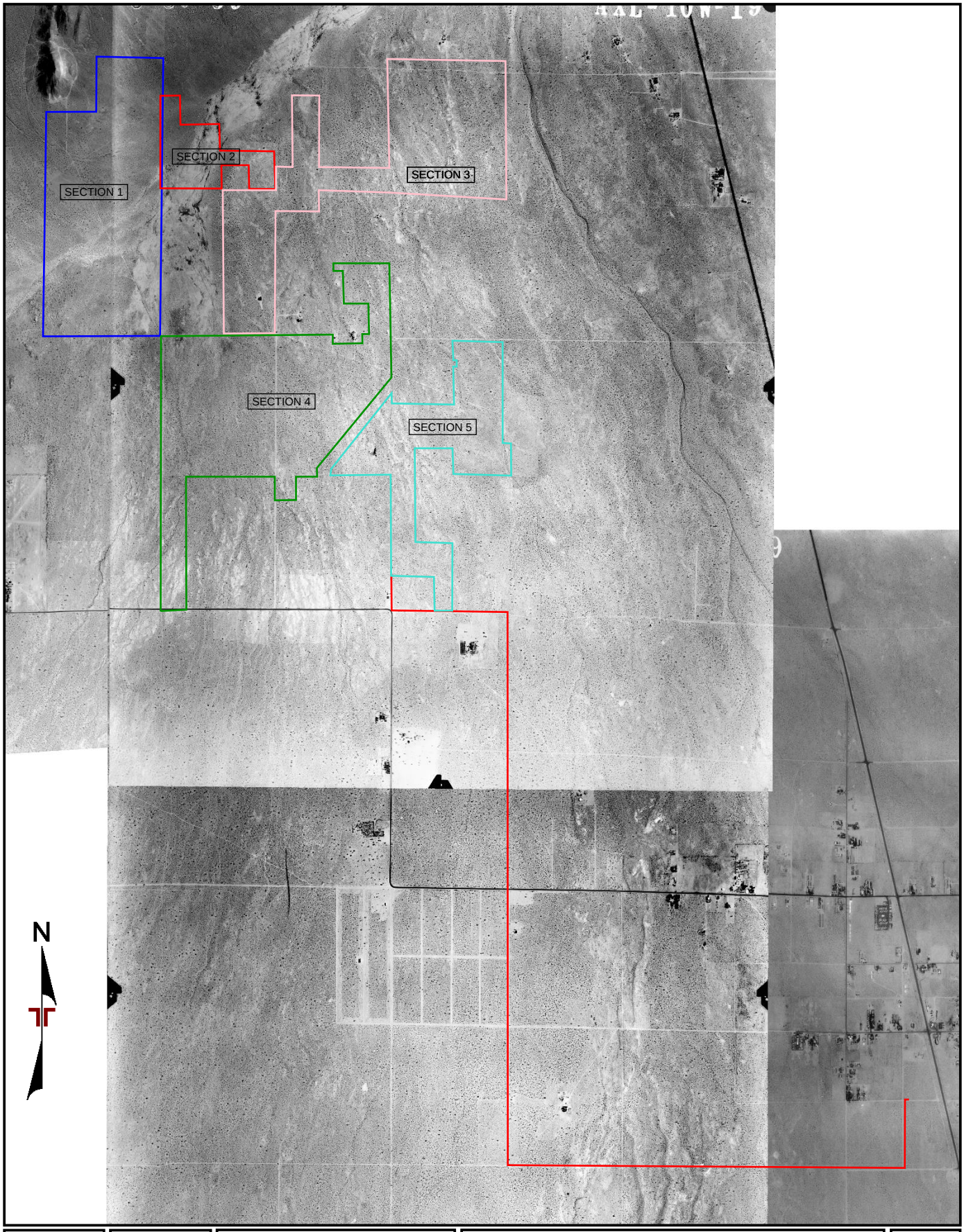
Project Manager: JSV	Project No. 60197256	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1985-NHAP) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: JSV	Scale: 1:24000			
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



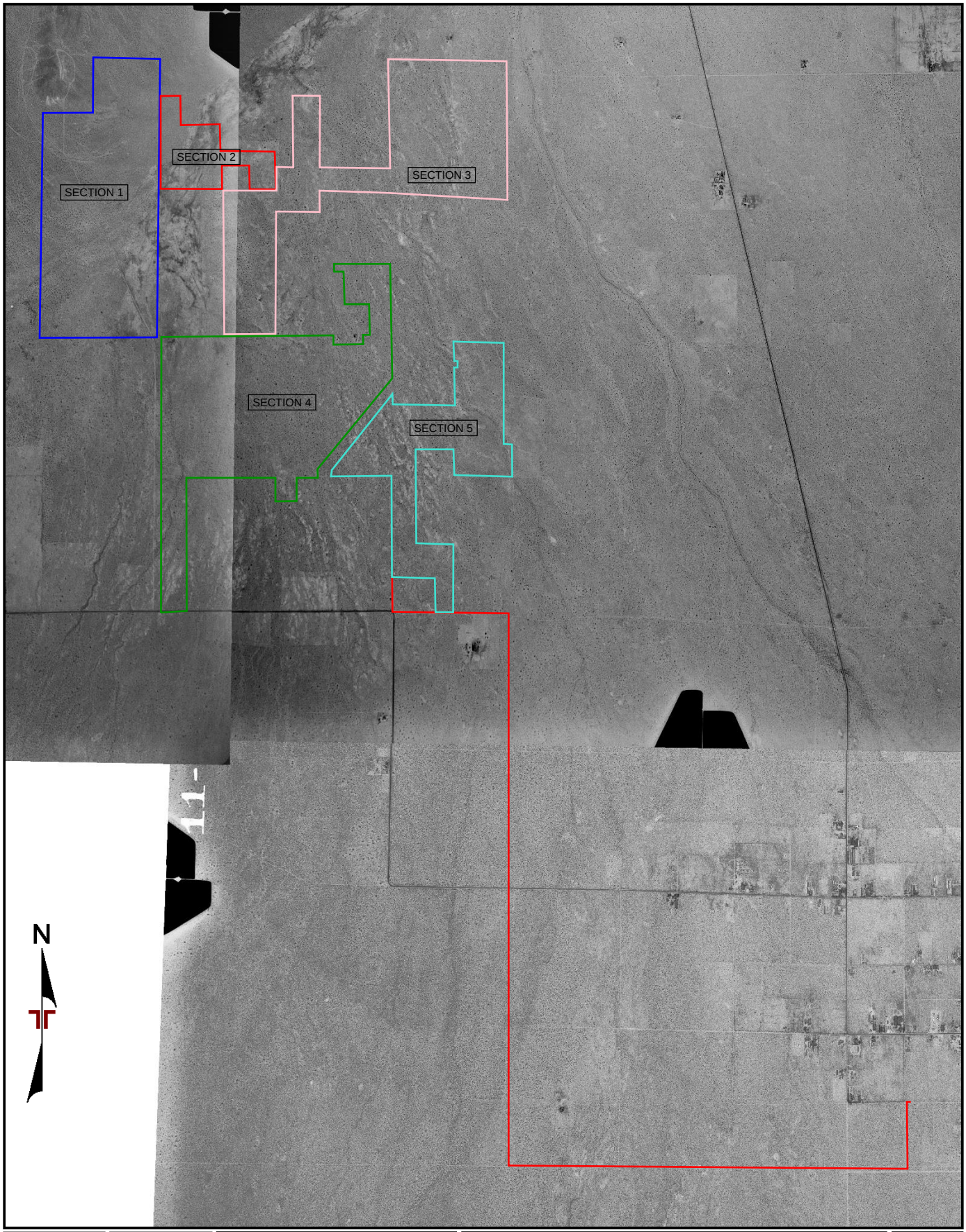
Project Manager: JSV Drawn by: JSV Checked by: JSV Approved by: IRN	Project No. 60197256 Scale: 1:24000 File Name: 20190715309 Date: 2019-07-22	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1978-USGS) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



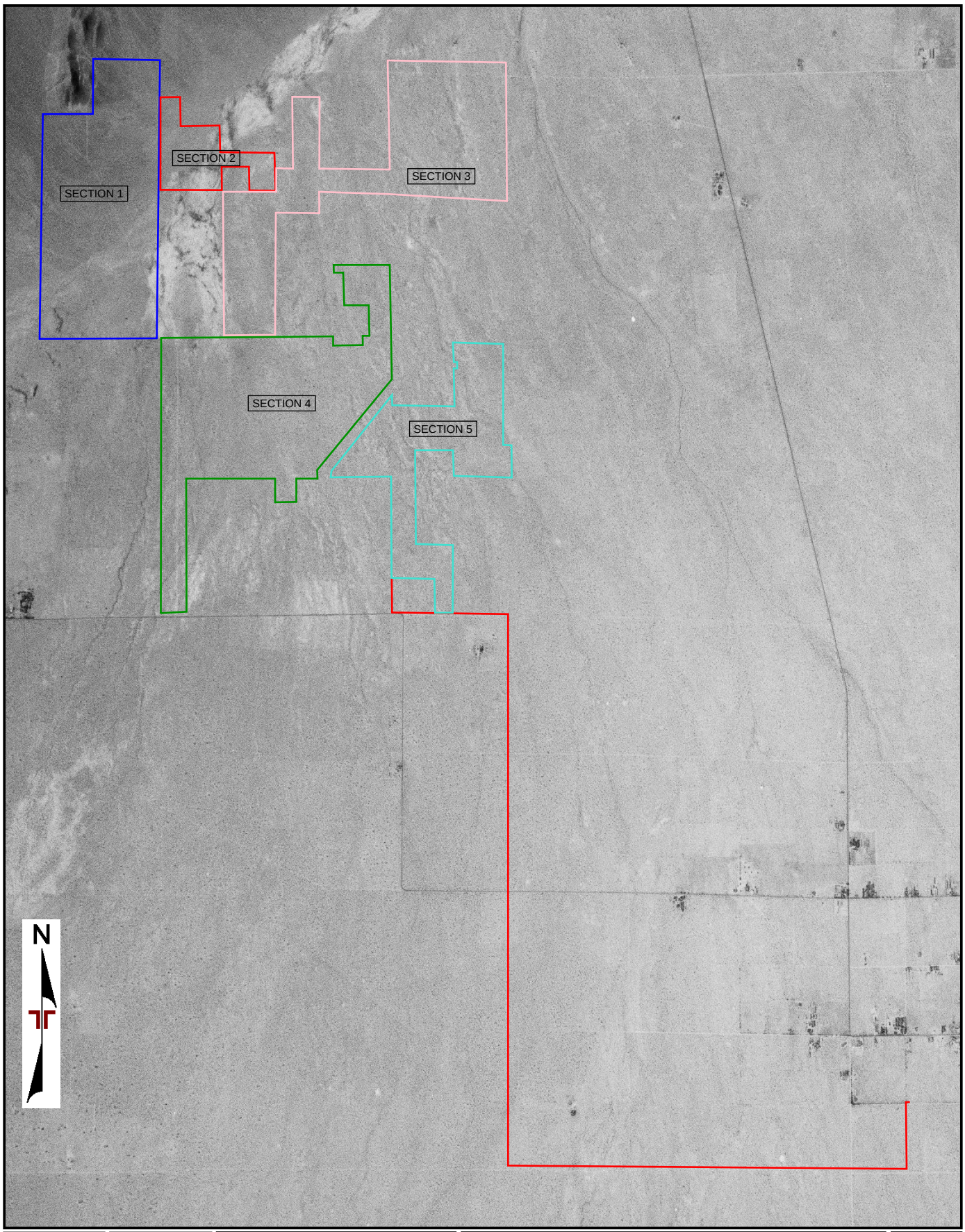
Project Manager: JSV Drawn by: JSV Checked by: JSV Approved by: IRN	Project No. 60197256 Scale: 1:24000 File Name: 20190715309 Date: 2019-07-22	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1968-USGS) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



Project Manager: JSV	Project No. 60197256	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1959-ASCS) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: JSV	Scale: 1:24000			
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



Project Manager: JSV	Project No. 60197256	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1952-USGS) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: JSV	Scale: 1:24000			
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			



Project Manager: JSV	Project No. 60197256	Terracon 1421 Edinger Ave Suite C Tustin, CA	AERIAL PHOTO (1948-USAF) BALDY MESA SOLAR NORTH OF EL MIRAGE ROAD, SOTUH OF COLUSA ROAD, WEST OF RACCOON AVENUE AND EAST OF VINTON ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: JSV	Scale: 1:24000			
Checked by: JSV	File Name: 20190715309			
Approved by: IRN	Date: 2019-07-22			

ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

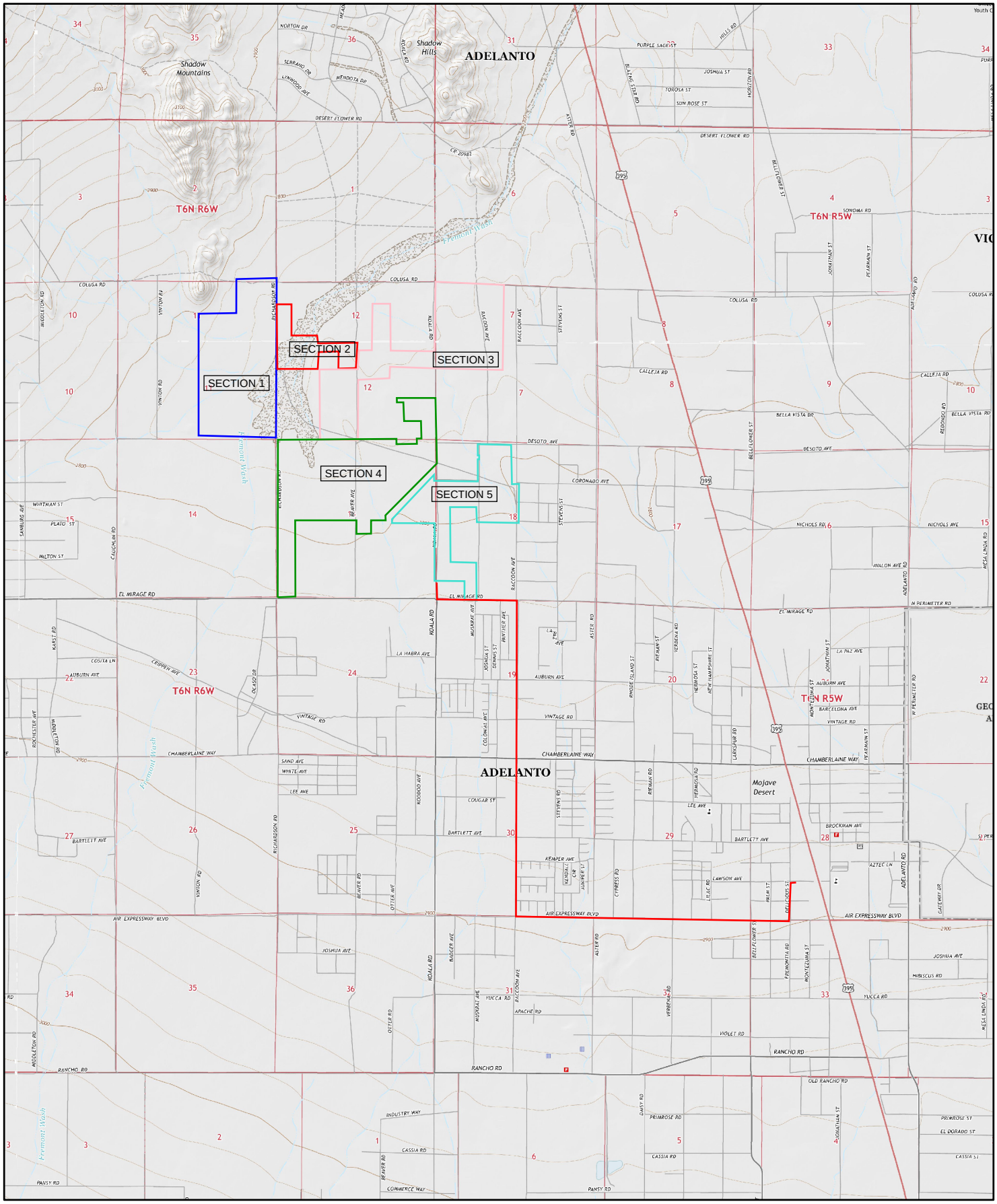
Project Property:	Baldy Mesa Solar Baldy Mesa Solar Adelanto CA 92301
Requested By:	60197256
Order No:	20190715309
Date Completed:	July 19, 2019

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1993	7.5
1980	7.5
1968	7.5
1956	7.5
1956	15

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc.(in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS. This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.



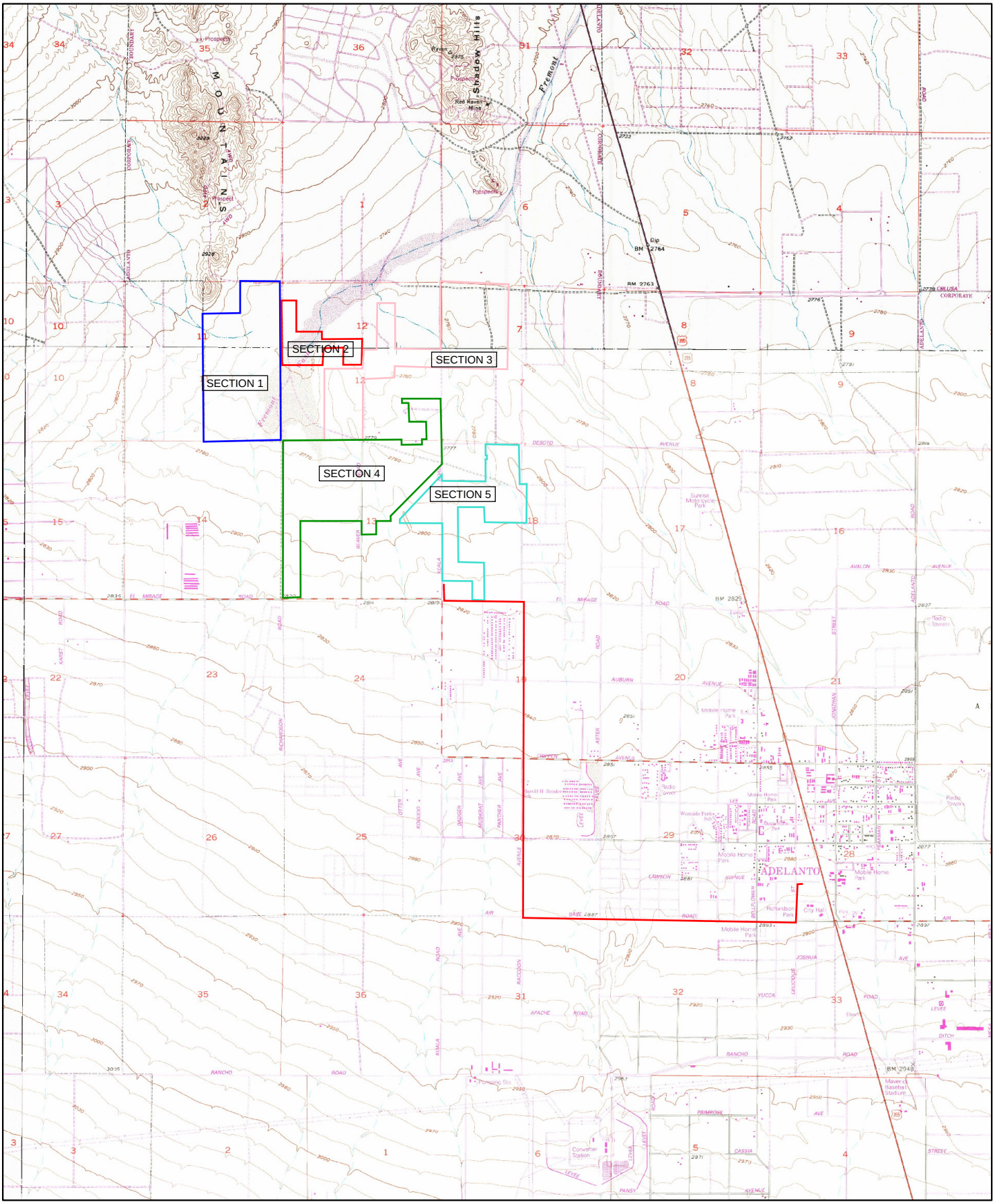
2015

Order No. 20190715309

Quadrangle(s): Adelanto,CA; Victorville NW,CA

Source: USGS 7.5 Minute Topographic Map

ENVIRONMENTAL RISK INFORMATION SERVICES



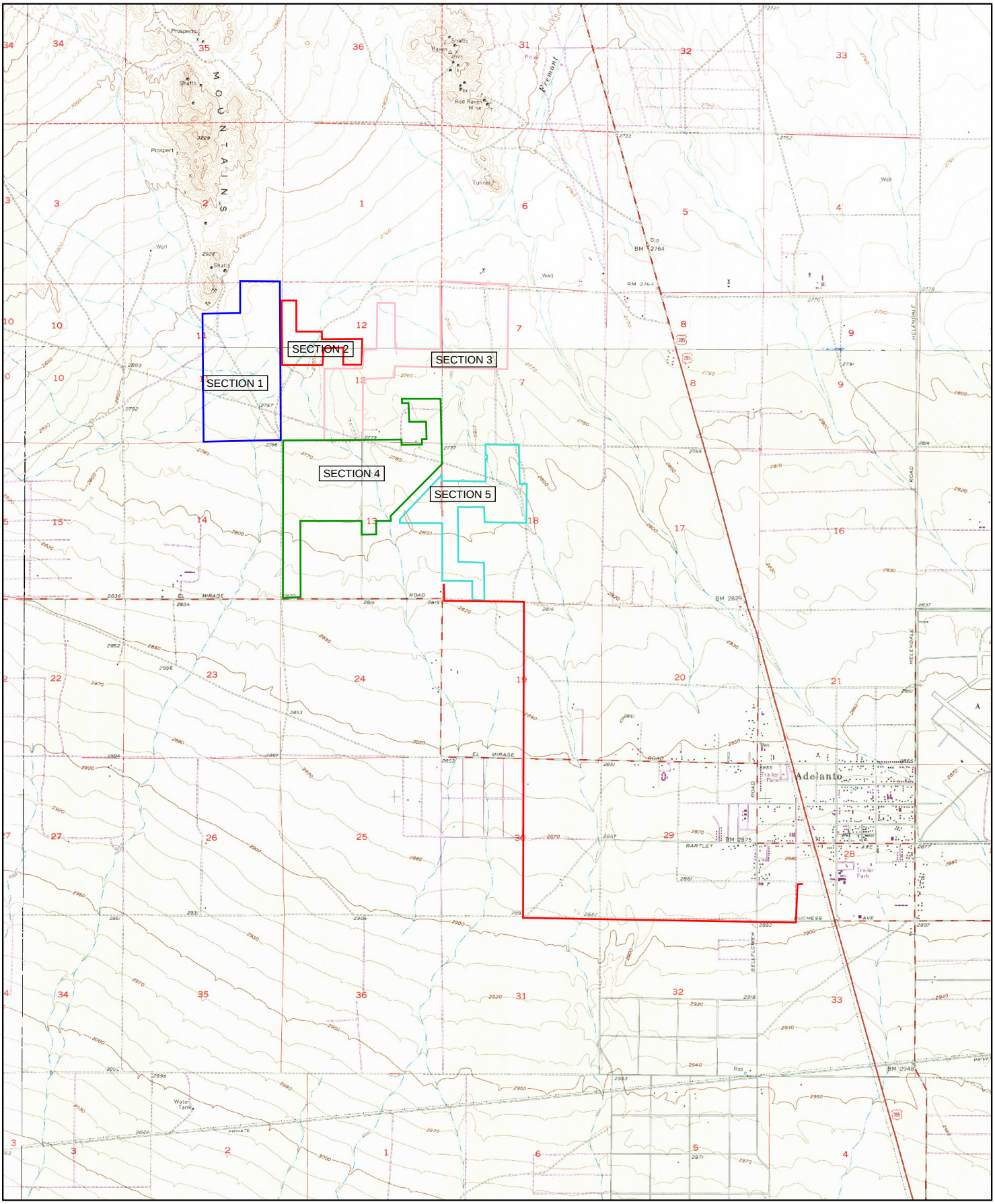
1993

Order No. 20190715309

Quadrangle(s): Adelanto,CA; Victorville NW,CA

Source: USGS 7.5 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



1968

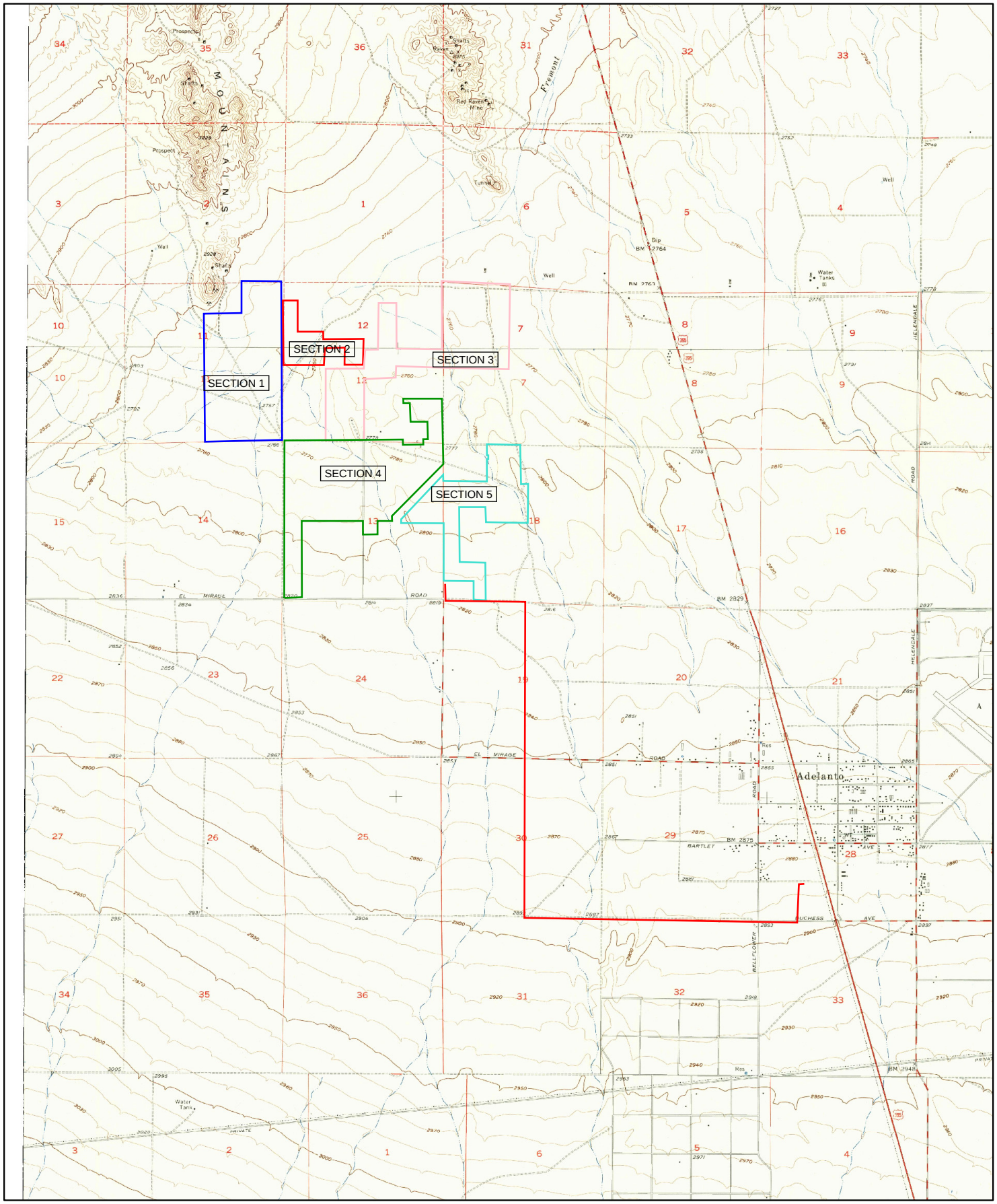
0 0.2 0.4 0.8 1.2 1.6 2 Miles

Order No. 20190715309

Quadrangle(s): Adelanto,CA; Victorville NW,CA

Source: USGS 7.5 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



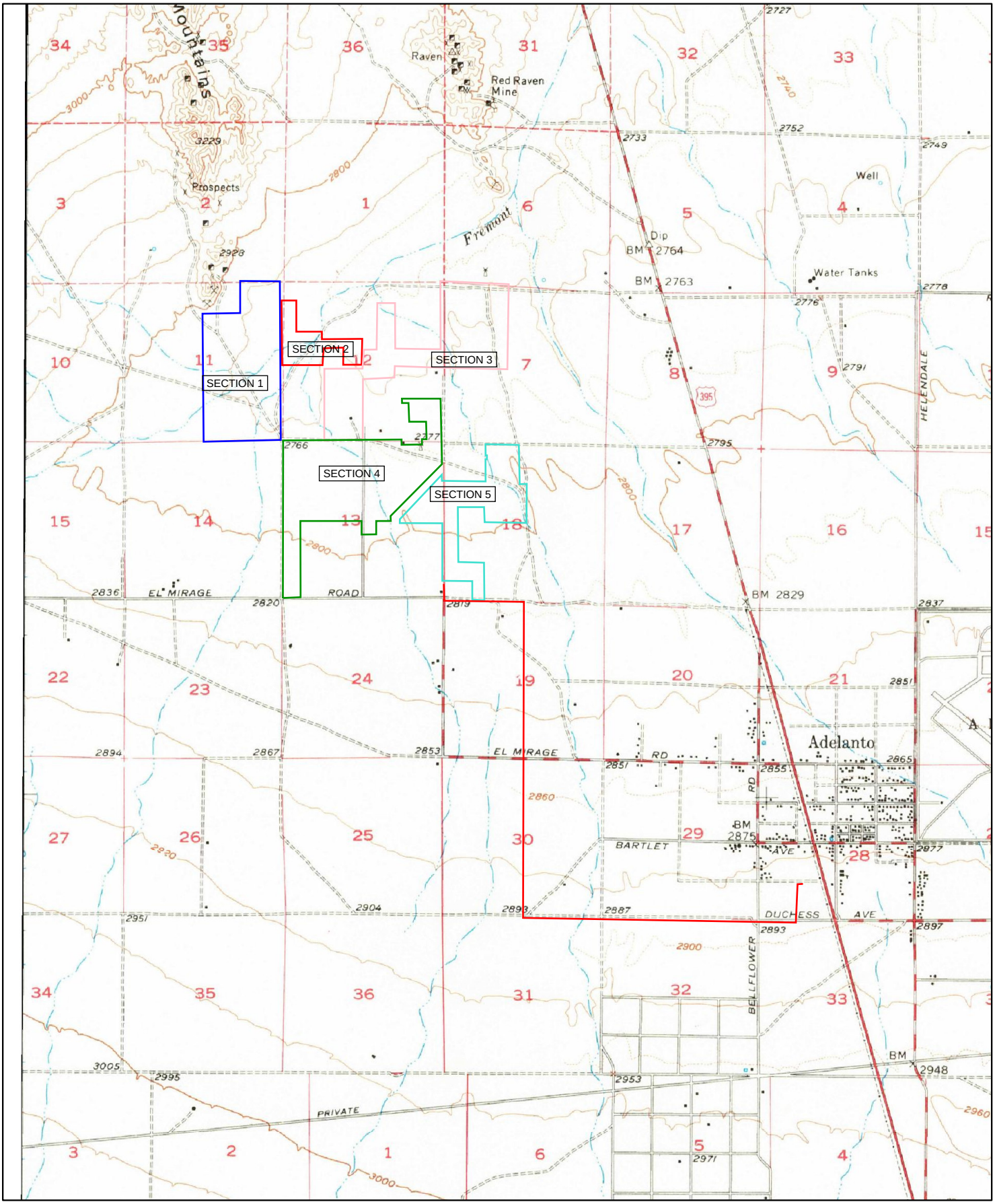
1956

Order No. 20190715309

Quadrangle(s): Adelanto,CA; Victorville NW,CA

Source: USGS 7.5 Minute Topographic Map

ENVIRONMENTAL RISK INFORMATION SERVICES



1956

0 0.2 0.4 0.8 1.2 1.6 2 Miles

Order No. 20190715309

Quadrangle(s): Victorville,CA

Source: USGS 15 Minute Topographic Map

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Baldy Mesa Solar Baldy Mesa Solar Adelanto CA 92301
Requested By:	60197256
Order No:	20190715309
Date Completed:	July 18, 2019

Please note that no information was found for your site or adjacent properties.

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ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Baldy Mesa Solar* *Baldy Mesa Solar* *Adelanto, CA 92301*
Project No:	*60197256*
Requested By:	*Terracon*
Order No:	*20190715309*
Date Completed:	*July 30, 2019*

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July 30, 2019
RE: CITY DIRECTORY RESEARCH
Baldy Mesa Solar
Baldy Mesa Solar Adelanto, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

9500-10098 of De Soto Avenue
8400-9800 of El Mirage Road
8800-9700 of Koala Road
11300-14000 of Air Expressway aka Air Base Rd
17700-17830 of Delicious Street

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2006	DIGITAL BUSINESS DIRECTORY	
2002	DIGITAL BUSINESS DIRECTORY	
1998	DIGITAL BUSINESS DIRECTORY	
1995	HAINES	
1988	HAINES	
1982	HAINES	
1975	HAINES	
1971	HAINES	

2018 AIR EXPRESSWAY AKA AIR BASE RD

SOURCE: DIGITAL BUSINESS DIRECTORY

11301 **ADELANTO RV PARK**...*Campgrounds*
11381 **ADELANTO FIRST BAPTIST CHURCH**...*Church*
11381 **CENTRO CRISTIANO LUZ Y ESPRNZ**...*Church*
11600 **ADELANTO ADMIN**...*Government Offices-ci*
11600 **ADELANTO ANIMAL CONTROL**...*Police Depar*
11600 **ADELANTO BUILDING DEPT**...*Government Of*
11600 **ADELANTO FINANCE DEPT**...*City Governmen*
11600 **ADELANTO LOCAL TRANSIT**...*Government Of*
11600 **ADELANTO WATER DEPT**...*Water & Sewage C*
11600 **ADELANTO WATER DEPT**...*City Govt-regula*
11600 **ADMINISTRATIVE OFFICES**...*Government Of*
11746 **DOLLAR GENERAL**...*Variety Stores*
11752 **DOLLAR GENERAL**...*Variety Stores*
11824 **ADELANTO SCHOOL DISTRICT**...*Schools*
11824 **ADELANTO SCHOOL DISTRICT**...*Schoolsuniv*
12011 **RECYCLE NOE**...*Federal Government Contr*
12011 **RECYCLE NOE**...*Recycling Centers (whls)*
12012 **ADELANTO CHAMBER OF COMMERCE**...*Cha…*
12012 **ANNA'S BEAUTY SALON**...*Beauty Salons*
12014 **EXPRESS BAKERY**...*Bakers-retail*
12091 **LEE'S DONUTS**...*Doughnuts*

2018 DE SOTO AVENUE

SOURCE: DIGITAL BUSINESS DIRECTORY

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

DELICIOUS STREET

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

AIR EXPRESSWAY AKA AIR BASE RD

11301 **ADELANTO RV PARK**...*Recreational Vehicl*
11301 **ADELANTO RV PARK**...*Camps*
11301 **ADELANTO RV PARK**...*Gas-liquefied Petro*
11301 **ADELANTO RV PARK**...*Rv Parks & Campgrou*
11381 **ADELANTO FIRST BAPTIST CHURCH**...*Religi*
11381 **CENTRO CRISTIANO LUZ Y ESPRNZ**...*Religi*
11600 **ADELANTO ANIMAL CONTROL**...*Legislative*
11600 **ADELANTO BUILDING DEPT**...*Legislative B*
11600 **ADELANTO CITY HALL**...*Executive Offices*
11600 **ADELANTO CITY MAINTENANCE DEPT**...*Legis*
11600 **ADELANTO FINANCE DEPT**...*Public Finance*
11600 **ADELANTO WATER DEPT**...*Utility Regulati*
11600 **ADELANTO WATER DEPT**...*Water & Sewage C*
11724 **ATM**...*Commercial Banking*
11824 **ADELANTO SCHOOL DISTRICT**...*Elementary*
12012 **ADELANTO CHAMBER OF COMMERCE**...*Busi…*
12012 **ANA'S HAIR SALON**...*Beauty Salons*
12012 **ANNA'S BEAUTY SALON**...*Beauty Salons*
12014 **PARRA MINI MART**...*Convenience Stores*
12016 **BOARD UP CLEAN UP**...*Janitorial Svcs*
12018 **SHADE GARDEN**...*Nonclassified Establish*
12091 **LEE'S DONUTS**...*Snack & Nonalcoholic Be*

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

DE SOTO AVENUE

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

DELICIOUS STREET

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

AIR EXPRESSWAY AKA AIR BASE RD

11301 **ADELANTO RV PARK**...*Rv Parks & Campgrou*
11381 **CENTRO CRISTIANO LUZ Y ESPRNZ**...*Religi*
11600 **ADELANTO BUILDING DEPT**...*Legislative B*
11600 **ADELANTO CITY MAINTENANCE DEPT**...*Legis*
11600 **ADELANTO ENGINEERING DEPT**...*Legislativ*
11600 **ADELANTO FINANCE DEPT**...*Public Finance*
11600 **ADELANTO LOCAL TRANSIT**...*Transportatio*
11600 **ADELANTO WATER DEPT**...*Utility Regulati*
11724 **CIRCLE K**...*Convenience Stores<*
11824 **ADELANTO SCHOOL DISTRICT**...*Elementary*
12011 **ADELANTO DRAPERIES BY HARRIS**...*Window*
12011 **CLASSIC DRAPERIES**...*Window Treatment S*
12016 **BOARD UP & CLEAN UP**...*Janitorial Svcs<*
12016 **MOJAVE RIVER ACADEMY**...*Elementary & Se*
12016 **NEW HORIZONS MANAGEMENT GROUP**...*Office*
12020 **LIGHTHOUSE SUPPORT SVC**...*Other Individ*
12020 **TONYS ROD IRON & SECURITY**...*Other Hous*
12091 **LEES DONUTS**...*Snack & Nonalcoholic Bev*

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

DE SOTO AVENUE

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

DELICIOUS STREET

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

AIR EXPRESSWAY AKA AIR BASE RD

11301 **ADELANTO RV PARK**...*Rv Parks & Campgrou*
11381 **CENTRO CRISTIANO LUZ Y ESPRNZ**...*Religi*
11600 **ADELANTO BUILDING DEPT**...*Legislative B*
11600 **ADELANTO CITY MAINTENANCE DEPT**...*Legis*
11600 **ADELANTO ENGINEERING DEPT**...*Legislativ*
11600 **ADELANTO FINANCE DEPT**...*Public Finance*
11600 **ADELANTO LOCAL TRANSIT**...*Transportatio*
11600 **ADELANTO WATER DEPT**...*Utility Regulati*
11724 **CIRCLE K**...*Convenience Stores<*
11824 **ADELANTO SCHOOL DISTRICT**...*Elementary*
12011 **ADELANTO DRAPERIES BY HARRIS**...*Window*
12011 **CLASSIC DRAPERIES**...*Window Treatment S*
12016 **BOARD UP & CLEAN UP**...*Janitorial Svcs<*
12016 **MOJAVE RIVER ACADEMY**...*Elementary & Se*
12016 **NEW HORIZONS MANAGEMENT GROUP**...*Office*
12020 **LIGHTHOUSE SUPPORT SVC**...*Other Individ*
12020 **TONYS ROD IRON & SECURITY**...*Other Hous*
12091 **LEES DONUTS**...*Snack & Nonalcoholic Bev*

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

DE SOTO AVENUE

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

DELICIOUS STREET

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA ROAD

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

AIR EXPRESSWAY AKA AIR BASE RD

11301 **ADELANTO RV PARK**...*Sporting Camps*
11381 **ADELANTO FIRST BAPTIST CHURCH**...
11391 **FIRST SOUTHERN BAPTIST CHURCH**...
11600 **ADELANTO BUILDING DEPT**...*Legislative B*
11600 **ADELANTO CHAMBER OF COMMERCE**...
11600 **ADELANTO ENGINEERING DEPT**...*Legislativ*
11600 **ADELANTO FINANCE DEPT**...*Finance Taxat*
11600 **ADELANTO LOCAL TRANSIT**...*Regulation A*
11600 **ADELANTO WATER DEPT**...*Regulation Admi*
11600 **ADMINISTRATIVE OFFICES**...*Legislative B*
11600 **MAINTENANCE DEPT**...*Legislative Bodies*
11724 **CIRCLE K**...
11824 **ADELANTO SCHOOL DISTRICT**...*Public Elem*
12011 **ADELANTO DRAPERIES BY HARRIS**...
12011 **CLASSIC DRAPERIES**...
12091 **LEE'S DONUTS**...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

DE SOTO AVENUE

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

DELICIOUS STREET

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

8801 **AEROCHEM INC**...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA ROAD

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

AIR EXPRESSWAY AKA AIR BASE RD

69 total records. *Part 1 of 2*

11301 **ADELANTO R V PARK**...*LIQUEFIED PET*
11381 **FIRST SOUTHERN BAPJIST CHURCH**...*R*
11381 **FIRST SOUTHERN BAPTIST CHURCH**...*R*
11391 **J PS SANDWICH DELI**...*MISCELLANEOU*
11600 **ADELANTO**...
11600 **ADELANTO ADMINISTRATIVE OFFICE-CITY**<
11600 **ADELANTO BOOSTER STATION**...
11600 **ADELANTO BUILDING DEPT**...
11600 **ADELANTO CITY OF**...
11600 **ADELANTO CITY OF ADMINISTRATIVE OFF**<
11600 **ADELANTO CITY OF BOOSTER STATION**.
11600 **ADELANTO CITY OF COMMUNITY CENTER**
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
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11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO CITY OF POLICE DEPARTMENT** <
11600 **ADELANTO COMMUNITY CENTER**...
11600 **ADELANTO ENGINEERING DEPT**...
11600 **ADELANTO FINANCE DEPT**...<
11600 **ADELANTO LOCAL TRANSIT**...
11600 **ADELANTO MAINTENANCE DEPT**...
11600 **ADELANTO WATER DEPT**...
11711 **CASINO HI DESERT**...*DRINKING PLACE*
11711 **CASINO HI-DESERT**...*DRINKING PLACE*
11711 **CDN**...
11711 **HI DESERT CASINO**...*DRINKING PLACE*
11711 **HI DESERT INN**...*HOTELS AND MOTELS*
11711 **HI-DESERT CASINO**...*DRINKING PLACE*
11711 **HI-DESERT INN**...*HOTELS AND MOTELS*
11724 **CIRCLE K CORP**...*GROCERY STORES*
11824 **ADELANTO ELEMENTARY SCHOOL DISTRICT**<
11824 **ADELANTO ELEMENTARY SCHOOL DISTRICT**<
11824 **ADELANTO ELEMENTARY SCHOOL DISTRICT**<
11824 **ADELANTO MATH & SCIENCE ACADEMY ADE**<
11824 **ADELANTO SCHOOL DISTRICT ADELANTO E**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<
11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**<

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

AIR EXPRESSWAY AKA AIR BASE RD

Part 2 of 2

11824 **ADELANTO SCHOOL DISTRICT ADMINISTRA**...
11824 **ADELANTO SCHOOL DISTRICT GEORGE AIR**...
11824 **FOOD SERVICES ADMINISTRATIVE OFFICE**...
11824 **LEAR CONSTRUCTION**...
11824 **SCHOOLS ADLTO SCHL DIST ADMIN OFCS** ...
11824 **SCHOOLS ADLTO SCHL DIST ADMIN OFCS** ...
11824 **SCHOOLS ADLTO SCHL DIST ADMIN OFCS** ...
11824 **SCHOOLS ADLTO SCHL DIST ADMIN OFCS** ...
11824 **SCHOOLS ADLTO SCHL DIST ADMIN OFCS** ...
11824 **SCHOOLS ADLTO SCHL DIST ADMIN OFCS TRANSPORTAT**..
11824 **SCHOOLSADELANTO SCHOOL DISTRICTADMI**...
12011 **ADELANTO DRAPERIES BY HARRIS**...*Drapery*
12011 **CLASSIC DRAPERIES**...*Drapery And Uphols*
12011 **HARRIS DRAPERIES**...*Drapery And Upholst*
12091 **LEES DONUTS**...*Eating Places*

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

DE SOTO AVENUE

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

DELICIOUS STREET

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

8801 **AEROCHEM INC**...*Building Maintenance Se*

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA ROAD

NO LISTING FOUND FOR THIS YEAR...

1995
SOURCE: HAINES

AIR EXPRESSWAY AKA AIR BASE RD

11301 **ADELANTO R V PARK**
11301 **DAVIS GEORGE T**
11301 **ROSENL OF WILLIAM W**
11301 **TULLY CAROL**
11301 **TULLY ROBERT**
11381 **XXXX**
11391 **J PS SANDWICH DELI**
11600 **ADELANTO CTY ADMIN**
11600 **ADELANTO CTY CNCL**
11711 **CASINO HI DESERT**
11711 **HI DESERT CASINO**
11711 **HI DESERT INN**
11718 **CIRCLE K CORP**
11824 **ADELANTO SC EDUC SV**
11824 **ADELANTO SC FOOD SV**
11824 **ADELANTO SC LIBRARY**
11824 **ADELANTO SC POOL**
11824 **ADELANTO SC SUPT**
11824 **ADELANTO SC TRNSPTN**
12002 **XXXX**
12011 **ADELANTO DRAPERIES**
12011 **CLASSIC DRAPERIES**
12011 **HARRIS DRAPERIES**
12012 **XXXX**
12020 **XXXX**
12091 **LEES DONUTS**

1995
SOURCE: HAINES

DE SOTO AVENUE

NO LISTINGS IN RANGE

1995
SOURCE: HAINES

DELICIOUS STREET

NO LISTINGS IN RANGE

1995
SOURCE: HAINES

EL MIRAGE ROAD

. INLAND WEST FNCL SV
. INLAND WEST REALTY
. JONES DAN
. LAGUARDIA DONALD E
. OWEN M
. SLATER FRANK
. STONE FRED REALTY
5225 XXXX
8402 MULTI TENANT RESIDENTIAL
8801 AEROCHEM INC

1995
SOURCE: HAINES

KOALA ROAD

NO LISTINGS IN RANGE

1988
SOURCE: HAINES

AIR EXPRESSWAY AKA AIR BASE RD

11381 **MOVIE TIME VIDEO**
11391 **JA LYNNS FSHNS & PHTO**
11711 **CASINO HIGH DESERT**
11711 **HI DESERT INN**
11711 **HIGH DSAT CASINO**
11824 **ADELANTO ELM SC LBR**
11824 **ADELANTO SC ASST**
11824 **ADELANTO SC FOOD SV**
11824 **ADELANTO SC POOL**
11824 **ADELANTO SC SUPT**
11824 **ADELANTO SC TRNSPTN**
11824 **SC ADELANTO ADMIN**
11824 **SC ADELANTO EDUC SV**
11824 **SC ADELANTO FOOD SV**
11824 **SC ADELANTO LIBRARY**
11824 **SC ADELANTO SUPT**
11824 **SC ADELANTO TRNSPTN**
11824 **SC ADLNTO ADM REC**
12002 **SLAUGHTER B HINS**
12011 **A B C BILLARDS**
12011 **ADELANTO DRAPERIES**
12011 **CLASSIC DRAPERIES**
12011 **HARRIS DRAPERIES**
12012 **XXXX**
12014 **XXXX**
12090 **LEES DONUTS**

1988
SOURCE: HAINES

DE SOTO AVENUE

NO LISTINGS IN RANGE

1988
SOURCE: HAINES

DELICIOUS STREET

NO LISTINGS IN RANGE

1988
SOURCE: HAINES

EL MIRAGE ROAD

5225 **BERAY ROBLEY H**
8801 **AEROCHEM INC**
8870 **WARREN COY L**

1988
SOURCE: HAINES

KOALA ROAD

NO LISTINGS IN RANGE

1982
SOURCE: HAINES

AIR EXPRESSWAY AKA AIR BASE RD

11711 **ADELANTO HIGH CASNO**
11711 **CASINO HIGH DESERT**
11711 **HI DESERT CASINO**
11711 **HIGH DSRT CASINO**
11824 **ADELANTO ELM SC ADM**
11824 **ADELANTO ELM SC LBR**
11824 **ADELANTO ELM SC REC**
11824 **ADELANTO ELM SC SPT**
11824 **ADELANTO ELM SC SPT**
11824 **SC ADELANTO ADMIN**
12002 **SLAUGHTER B H INS**
12011 **HARRIS DRAPERIES**
12012 **NORA LYNN BTY SLN**
12020 **ADELANTO PLAZA MOTL**
12090 **LEES DONUTS**

1982
SOURCE: HAINES

DE SOTO AVENUE

STREET NOT LISTED

1982
SOURCE: HAINES

DELICIOUS STREET

NO LISTINGS IN RANGE

1982
SOURCE: HAINES

EL MIRAGE ROAD

NO LISTINGS IN RANGE

1982
SOURCE: HAINES

KOALA ROAD

NO LISTINGS IN RANGE

1975
SOURCE: HAINES

AIR EXPRESSWAY AKA AIR BASE RD

11824 **ADELANTO ELEM ADMIN**
11824 **ADELANTO ELEM LIBRY**
11824 **ADELANTO SC RECRIN**
11824 **ADELANTO SC SUPT**
12002 **SLAUGHTER BH INS**
12012 **NORA LYNN BTY SALON**

1975
SOURCE: HAINES

DE SOTO AVENUE

STREET NOT LISTED

1975
SOURCE: HAINES

DELICIOUS STREET

NO LISTINGS IN RANGE

1975
SOURCE: HAINES

EL MIRAGE ROAD

STREET NOT LISTED

1975
SOURCE: HAINES

KOALA ROAD

NO LISTINGS IN RANGE

1971
SOURCE: HAINES

AIR EXPRESSWAY AKA AIR BASE RD

11824 **ADELANTO ELEM ADMIN**
11824 **ADELANTO ELEM LIBRY**
11824 **ADELANTO ELEM SUPT**
12002 **SLAUGHTER B H INS**

1971
SOURCE: HAINES

DE SOTO AVENUE

STREET NOT LISTED

1971
SOURCE: HAINES

DELICIOUS STREET

NO LISTINGS IN RANGE

1971
SOURCE: HAINES

EL MIRAGE ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

KOALA ROAD

NO LISTINGS IN RANGE

--- END REPORT ---

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Baldy Mesa Solar* *Baldy Mesa Solar* *Adelanto CA 92301*
Project No:	
Report Type:	*Database Report*
Order No:	*20190715309*
Requested by:	*Terracon Consultants, Inc.*
Date Completed:	*August 5, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:		*Baldy Mesa Solar* *Baldy Mesa Solar Adelanto CA 92301*
Project No:		
Coordinates:		
	Latitude:	*34.616464*
	Longitude:	*-117.46172*
	UTM Northing:	*3,830,608.66*
	UTM Easting:	*457,671.45*
	UTM Zone:	*UTM Zone 11S*
Elevation:		*2,780 FT*

Order Information:

Order No:	*20190715309*
Date Requested:	*July 15, 2019*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (Boundaries)*
City Directory Search	*CD - Custom City Directory Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*PSR*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	2	2	-	-	4
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	2	3	-	5
DELISTED LST	Y	.5	0	0	0	0	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	1	-	-	1
AST	Y	.25	0	1	0	-	-	1
DELISTED TNK	Y	.25	0	0	0	-	-	0
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED CTNK	Y	.25	0	1	0	-	-	1
HIST TANK	Y	.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
SANBERN CUPA	Y	.25	0	4	4	-	-	8
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	0	3	-	-	-	3
TRIS	Y	PO	0	-	-	-	-	0
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
PFAS GW	Y	.5	0	0	0	0	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	1	-	-	-	1
HAZNET	Y	PO	0	2	-	-	-	2
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	0	-	-	-	0
DELISTED HAZ	Y	.5	0	0	0	1	-	1
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	6	0	-	-	6
CDL	Y	.125	0	0	-	-	-	0

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental databases were selected to be included in the search.***

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Total:			0	20	9	4	0	33

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	CERS HAZ	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	34	24
1	SANBERN CUPA	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA	19408 Koala Rd ADELANTO CA 92301	-	0.00 / 0.00	34	26
1	EMISSIONS	LEVEL 3 COMMUNICATIONS - KOALA RD	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	34	26
1	FINDS/FRS	LEVEL 3 COMMUNICATIONS - KOALA RD	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	34	27
1	HAZNET	EC POWER SYSTEMS	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	34	27
2	SANBERN CUPA	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCACS	19402 Koala Rd ADELANTO CA 92301	-	0.00 / 0.00	35	28
2	EMISSIONS	LEVEL 3 COMMUNICATIONS - KOALA RD	19402 KOALA ROAD ADELANTO CA 92301	-	0.00 / 0.00	35	28
2	EMISSIONS	WILLIAMS COMMUNICATION - ADELANTO	19402 KOALA ROAD ADELANTO CA 92301	-	0.00 / 0.00	35	29
2	FINDS/FRS	LEVEL 3 - ADELANTO - ADLNCACS	19402 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	35	30
2	HAZNET	WILTEL COMMUNICATIONS LLC, ADELANTO, ADLNCA1W	19402 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	35	31
3	CHMIRS	Kinder Morgan	El Mirage at Koala Adelanto CA 92868	-	0.00 / 0.00	42	31

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
3	HAZNET	CALNEV PIPELINE LLC	CORNER OF KOALA RD & EL MIRAGE RD ADELANTO CA 923010000	-	0.00 / 0.00	42	32
4	FINDS/FRS	SCE-ROADWAY SUBSTATION	LAWSON & DELICIOUS ADELANTO CA 92301	-	0.00 / 0.00	109	32
5	AST	SCE-ROADWAY SUBSTATION	LAWSON & DELICIOUS ADELANTO CA 92301	-	0.00 / 0.00	109	33
5	CERS HAZ	SCE Roadway Substation	LAWSON AVE & DELICIOUS ST ADELANTO CA 92301	-	0.00 / 0.00	109	33
6	CHMIRS	So Ca Edison	Bellflower and Airexpress Way Adelanto CA	-	0.00 / 0.00	116	35
7	CHMIRS	san bernardino co fire/haz mat	el mirage rd & kaoala adelanto CA	SSE	0.00 / 7.40	42	38
8	AST	LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE ADELANTO CA 92301	SSW	0.00 / 26.08	43	39
8	SANBERN CUPA	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCAAO	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	43	39
8	EMISSIONS	LEVEL 3 COMMUNICATIONS - EL MIRAGE RD	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSW	0.00 / 26.08	43	39
8	EMISSIONS	INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSW	0.00 / 26.08	43	41
8	EMISSIONS	BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSW	0.00 / 26.08	43	41
8	FINDS/FRS	LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	43	43

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
8	FINDS/FRS	BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301-0000	SSW	0.00 / 26.08	43	44
8	FINDS/FRS	INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSW	0.00 / 26.08	43	44
8	HAZNET	ELECTRIC LIGHTWAVE INC ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	43	45
8	HAZNET	BROADWING-ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	43	46
9	EMISSIONS	ADELANTO, CITY OF - MUSKRAT AVE	20039 MUSKRAT AVENUE ADELANTO CA 92301	ENE	0.04 / 201.83	-9	46
10	SANBERN CUPA	VERIZON-PANTHER RCC2	18431 PANTHER AVE ADELANTO CA 92301	SSE	0.10 / 548.54	83	47
11	SANBERN CUPA	CITY OF ADELANTO PUBLIC WORKS	17451 RACCOON AVE ADELANTO CA 92301	SSE	0.11 / 592.36	122	47
11	SANBERN CUPA	R.L.T. ENTERPRISES	17451 RACCOON AVE ADELANTO CA 92301	SSE	0.11 / 592.36	122	48
11	DELISTED CTNK	CITY OF ADELANTO PUBLIC WORKS	17451 RACCOON AVE ADELANTO CA 92301	SSE	0.11 / 592.36	122	48
11	EMISSIONS	CITY OF ADELANTO PUBLIC WORKS YARD	17451 RACOON AVE. ADELANTO CA 92301	SSE	0.11 / 592.36	122	48
11	EMISSIONS	ADELANTO, CITY OF - CITY YARD	17451 RACCOON AVE. ADELANTO CA 92301	SSE	0.11 / 592.36	122	50
11	RCRA NON GEN	R L T ENTERPRISES	17451 RACCOON NO 9 ADELANTO CA 92301 ***EPA Handler ID:*** CAR000112375	SSE	0.11 / 592.36	122	51
11	RCRA NON GEN	CITY OF ADELANTO	17451 RACOON AVE ADELANTO CA 92301-2271 ***EPA Handler ID:*** CAL000376754	SSE	0.11 / 592.36	122	54

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
12	LUST	AEROCHEM INC	8801 EL MIRAGE RD ADELANTO CA 92301	SW	0.14 / 727.67	44	55
			***Global ID*	*Status*	*Status Date:*** T0607100698 | COMPLETED - CASE CLOSED | 1990-05-01 00:00:00			
13	HHSS	AEROCHEM	8801 EL MIRAGE HWY SHEEP CREEK EL MIRAGE CA 92301	SW	0.14 / 742.35	44	57
14	SANBERN CUPA	ADELANTO SCHOOL DIST	17927 JONATHAN RD ADELANTO CA 92301	SE	0.20 / 1,047.14	108	57
15	SANBERN CUPA	A BEST BUY AUTOMOTIVE	17845 JONATHAN ST ADELANTO CA 92301	SE	0.21 / 1,102.35	112	57
16	LUST	HARKEN MARKETING #100854	11605 BARTLETT AVE ADELANTO CA 92301	SE	0.21 / 1,135.19	102	58
			***Global ID*	*Status*	*Status Date:*** T0607100702 | COMPLETED - CASE CLOSED | 1990-07-05 00:00:00			
17	RCRA NON GEN	MOCKETT ENTERPRISES	18000 MUSKRAT AVE ADELANTO CA 92301	SSE	0.23 / 1,234.61	93	60
			EPA Handler ID: CAR000129510				
18	SANBERN CUPA	Family Dollar Store #10458	11545 Bartlett Ave Adelanto CA 92301	SE	0.24 / 1,249.48	99	61
18	RCRA NON GEN	FAMILY DOLLAR INC #10458	11545 BARTLETT AVE ADELANTO CA 92301	SE	0.24 / 1,249.48	99	61
			EPA Handler ID: CAL000400700				
19	SANBERN CUPA	DUNES LIQUOR & GAS	11500 BARTLETT STE A ADELANTO CA 92301	SE	0.24 / 1,264.93	99	62
20	DELISTED HAZ	ACA AUTO REPAIR	11660 BARTLETT AVE ADELANTO CA 92301	SE	0.28 / 1,494.86	100	63
21	LUST	CIRCLE K#8644	11724 AIR BASE RD ADELANTO CA 92301	SE	0.28 / 1,498.07	120	63
			***Global ID*	*Status*	*Status Date:*** T0607100928 | COMPLETED - CASE CLOSED | 2001-07-06 00:00:00			
22	LUST	FORMER ADELANTO SHELL	11660 BARTLETT ROAD ADELANTO CA 92301	SE	0.30 / 1,593.80	99	66
			***Global ID*	*Status*	*Status Date:*** T0607100954 | OPEN - ELIGIBLE FOR CLOSURE | 2018-10-30 00:00:00			
23	LUST	ADELANTO SCHOOL DISTRICT	11824 AIR BASE RD ADELANTO CA 92301	SE	0.42 / 2,196.07	122	101
			***Global ID*	*Status*	*Status Date:*** T0607100739 | COMPLETED - CASE CLOSED | 1994-06-09 00:00:00			

Executive Summary: Summary by Data Source

Standard

Federal

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Jun 3, 2019 has found that there are 4 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
R L T ENTERPRISES	17451 RACCOON NO 9 ADELANTO CA 92301	SSE	0.11 / 592.36	11
	***EPA Handler ID**: CAR000112375*			
CITY OF ADELANTO	17451 RACOON AVE ADELANTO CA 92301-2271	SSE	0.11 / 592.36	11
	***EPA Handler ID**: CAL000376754*			
MOCKETT ENTERPRISES	18000 MUSKRAT AVE ADELANTO CA 92301	SSE	0.23 / 1,234.61	17
	***EPA Handler ID**: CAR000129510*			
FAMILY DOLLAR INC #10458	11545 BARTLETT AVE ADELANTO CA 92301	SE	0.24 / 1,249.48	18
	***EPA Handler ID**: CAL000400700*			

State

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Apr 17, 2019 has found that there are 5 LUST site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
AEROCHEM INC	8801 EL MIRAGE RD ADELANTO CA 92301	SW	0.14 / 727.67	12
	***Global ID**	**Status**	**Status Date**: T0607100698	COMPLETED - CASE CLOSED	1990-05-01 00:00:00*			
HARKEN MARKETING #100854	11605 BARTLETT AVE ADELANTO CA 92301	SE	0.21 / 1,135.19	16
	***Global ID**	**Status**	**Status Date**: T0607100702	COMPLETED - CASE CLOSED	1990-07-05 00:00:00*			
CIRCLE K#8644	11724 AIR BASE RD ADELANTO CA 92301	SE	0.28 / 1,498.07	21
	***Global ID**	**Status**	**Status Date**: T0607100928	COMPLETED - CASE CLOSED	2001-07-06 00:00:00*			
FORMER ADELANTO SHELL	11660 BARTLETT ROAD ADELANTO CA 92301	SE	0.30 / 1,593.80	22

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	Global ID* | *Status* | *Status Date: *T0607100954 | OPEN - ELIGIBLE FOR CLOSURE | 2018-10-30 00:00:00*			
ADELANTO SCHOOL DISTRICT	11824 AIR BASE RD ADELANTO CA 92301	SE	0.42 / 2,196.07	23
	Global ID* | *Status* | *Status Date: *T0607100739 | COMPLETED - CASE CLOSED | 1994-06-09 00:00:00*			

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 1 HHSS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
AEROCHEM	8801 EL MIRAGE HWY SHEEP CREEK EL MIRAGE CA 92301	SW	0.14 / 742.35	13

AST - Aboveground Storage Tanks

A search of the AST database, dated Aug 31, 2009 has found that there are 2 AST site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SCE-ROADWAY SUBSTATION	LAWSON & DELICIOUS ADELANTO CA 92301	-	0.00 / 0.00	5
LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE ADELANTO CA 92301	SSW	0.00 / 26.08	8

DELISTED CTNK - Delisted California Environmental Reporting System (CERS) Tanks

A search of the DELISTED CTNK database, dated May 6, 2019 has found that there are 1 DELISTED CTNK site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CITY OF ADELANTO PUBLIC WORKS	17451 RACCOON AVE ADELANTO CA 92301	SSE	0.11 / 592.36	11

County

SANBERN CUPA - San Bernardino County - CUPA List

A search of the SANBERN CUPA database, dated Jul 17, 2019 has found that there are 10 SANBERN CUPA site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA	19408 Koala Rd ADELANTO CA 92301	-	0.00 / 0.00	1

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCACS	19402 Koala Rd ADELANTO CA 92301	-	0.00 / 0.00	2
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCAAO	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	8
VERIZON-PANTHER RCC2	18431 PANTHER AVE ADELANTO CA 92301	SSE	0.10 / 548.54	10
R.L.T. ENTERPRISES	17451 RACCOON AVE ADELANTO CA 92301	SSE	0.11 / 592.36	11
CITY OF ADELANTO PUBLIC WORKS	17451 RACCOON AVE ADELANTO CA 92301	SSE	0.11 / 592.36	11
ADELANTO SCHOOL DIST	17927 JONATHAN RD ADELANTO CA 92301	SE	0.20 / 1,047.14	14
A BEST BUY AUTOMOTIVE	17845 JONATHAN ST ADELANTO CA 92301	SE	0.21 / 1,102.35	15
Family Dollar Store #10458	11545 Bartlett Ave Adelanto CA 92301	SE	0.24 / 1,249.48	18
DUNES LIQUOR & GAS	11500 BARTLETT STE A ADELANTO CA 92301	SE	0.24 / 1,264.93	19

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Apr 23, 2019 has found that there are 6 FINDS/FRS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - KOALA RD	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	1

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 - ADELANTO - ADLNCACS	19402 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	2
SCE-ROADWAY SUBSTATION	LAWSON & DELICIOUS ADELANTO CA 92301	-	0.00 / 0.00	4
BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301-0000	SSW	0.00 / 26.08	8
LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	8
INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSW	0.00 / 26.08	8

State

CHMIRS - California Hazardous Material Incident Report System (CHMIRS)

A search of the CHMIRS database, dated Apr 2, 2019 has found that there are 3 CHMIRS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Kinder Morgan	El Mirage at Koala Adelanto CA 92868	-	0.00 / 0.00	3
So Ca Edison	Bellflower and Airexpress Way Adelanto CA	-	0.00 / 0.00	6
san bernardino co fire/haz mat	el mirage rd & kaoala adelanto CA	SSE	0.00 / 7.40	7

HAZNET - Hazardous Waste Manifest Data

A search of the HAZNET database, dated Oct 24, 2016 has found that there are 5 HAZNET site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
EC POWER SYSTEMS	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	1
WILTEL COMMUNICATIONS LLC, ADELANTO, ADLNCA1W	19402 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	2

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CALNEV PIPELINE LLC	CORNER OF KOALA RD & EL MIRAGE RD ADELANTO CA 923010000	-	0.00 / 0.00	3
BROADWING-ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	8
ELECTRIC LIGHTWAVE INC ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSW	0.00 / 26.08	8

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the CERS HAZ database, dated May 6, 2019 has found that there are 2 CERS HAZ site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	1
SCE Roadway Substation	LAWSON AVE & DELICIOUS ST ADELANTO CA 92301	-	0.00 / 0.00	5

DELISTED HAZ - Delisted Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the DELISTED HAZ database, dated Nov 29, 2018 has found that there are 1 DELISTED HAZ site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ACA AUTO REPAIR	11660 BARTLETT AVE ADELANTO CA 92301	SE	0.28 / 1,494.86	20

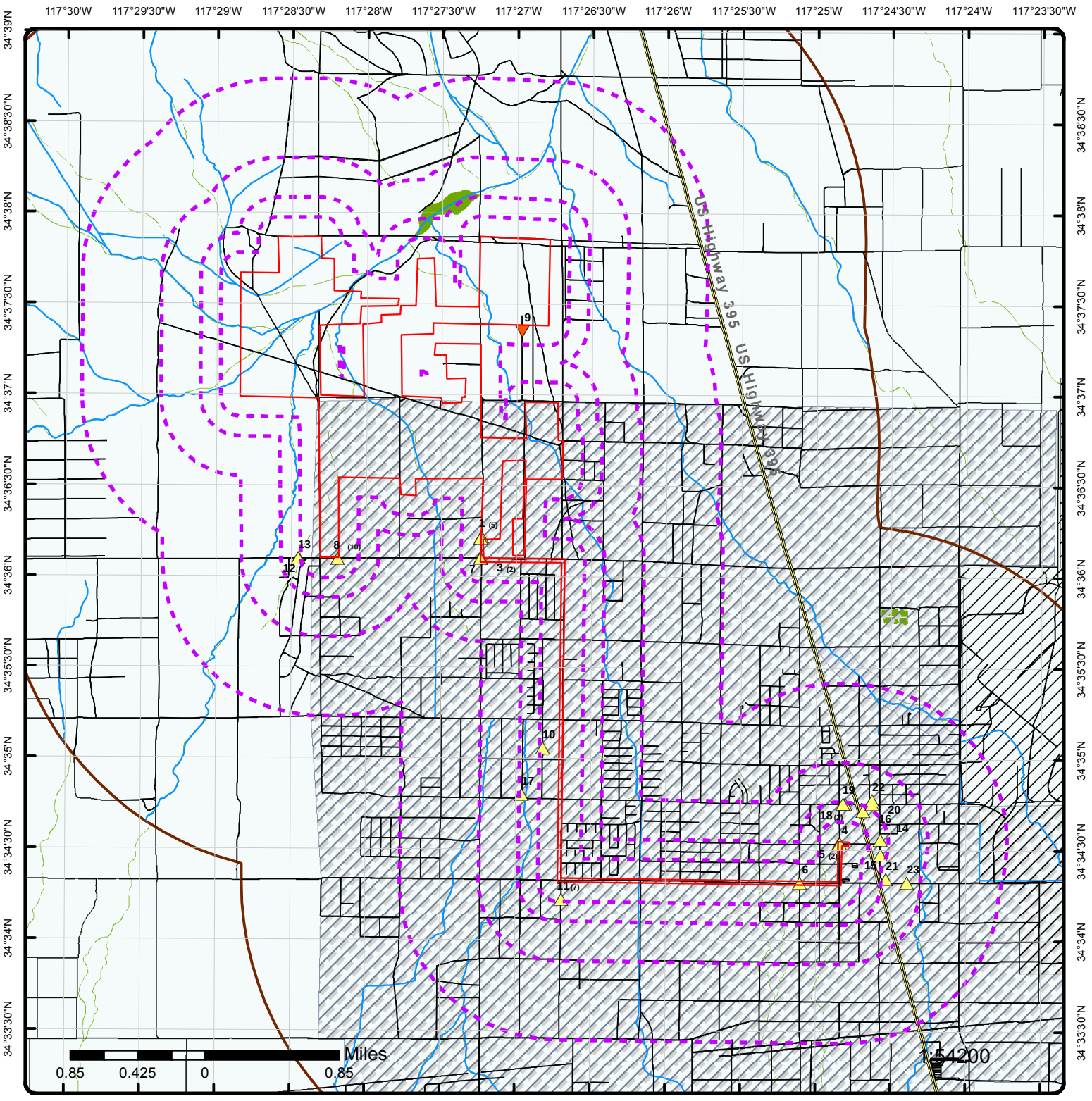
EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2017 has found that there are 9 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - KOALA RD	19408 KOALA RD ADELANTO CA 92301	-	0.00 / 0.00	1
WILLIAMS COMMUNICATION - ADELANTO	19402 KOALA ROAD ADELANTO CA 92301	-	0.00 / 0.00	2

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - KOALA RD	19402 KOALA ROAD ADELANTO CA 92301	-	0.00 / 0.00	2
LEVEL 3 COMMUNICATIONS - EL MIRAGE RD	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSW	0.00 / 26.08	8
INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSW	0.00 / 26.08	8
BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSW	0.00 / 26.08	8
ADELANTO, CITY OF - CITY YARD	17451 RACCOON AVE. ADELANTO CA 92301	SSE	0.11 / 592.36	11
CITY OF ADELANTO PUBLIC WORKS YARD	17451 RACOON AVE. ADELANTO CA 92301	SSE	0.11 / 592.36	11

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
ADELANTO, CITY OF - MUSKRAT AVE	20039 MUSKRAT AVENUE ADELANTO CA 92301	ENE	0.04 / 201.83	9



Map : 1 Mile Radius

Order No: 20190715309

Address: Baldy Mesa Solar, Adelanto, CA, 92301

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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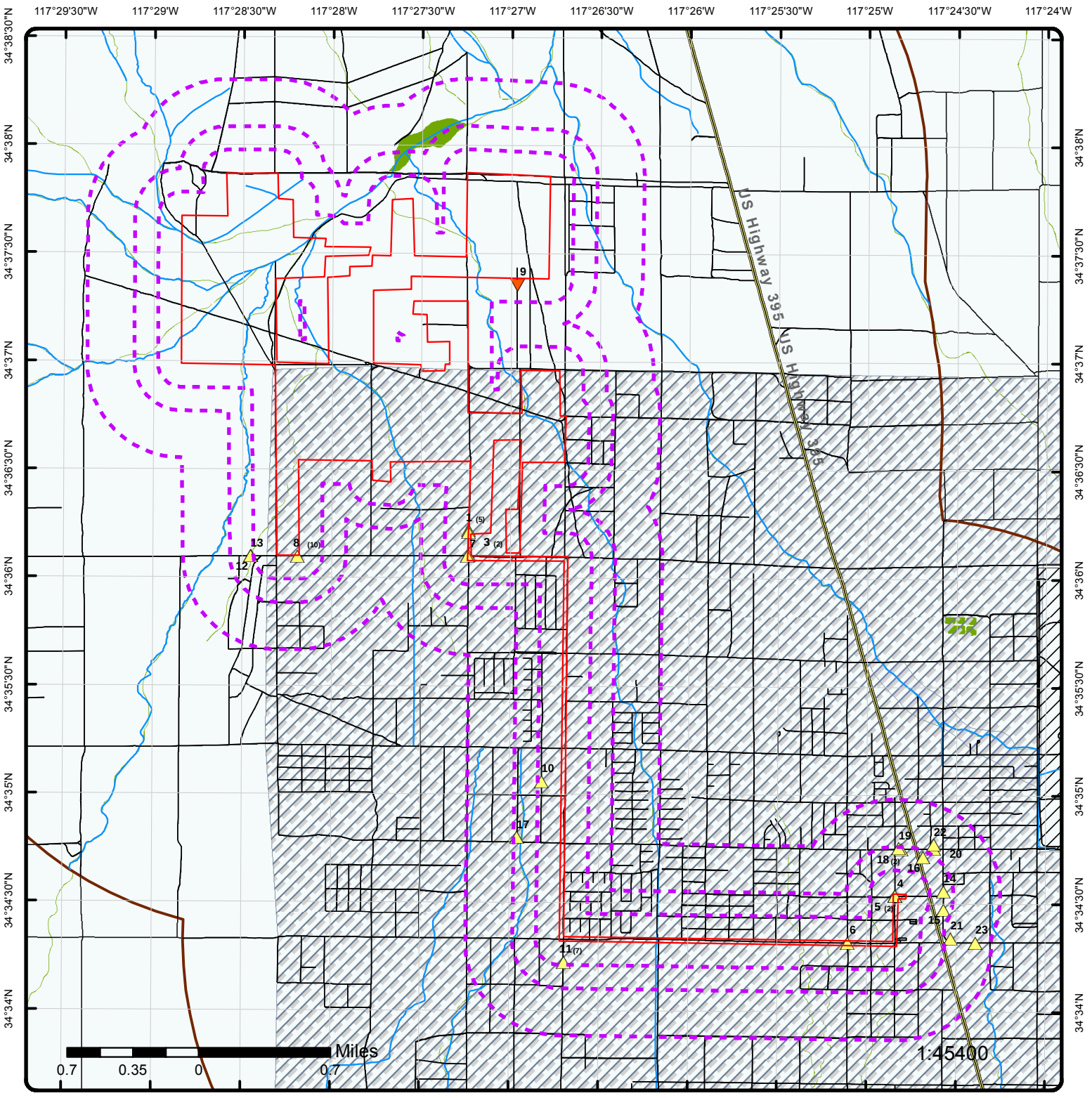


Map : 0.5 Mile Radius

Order No: 20190715309

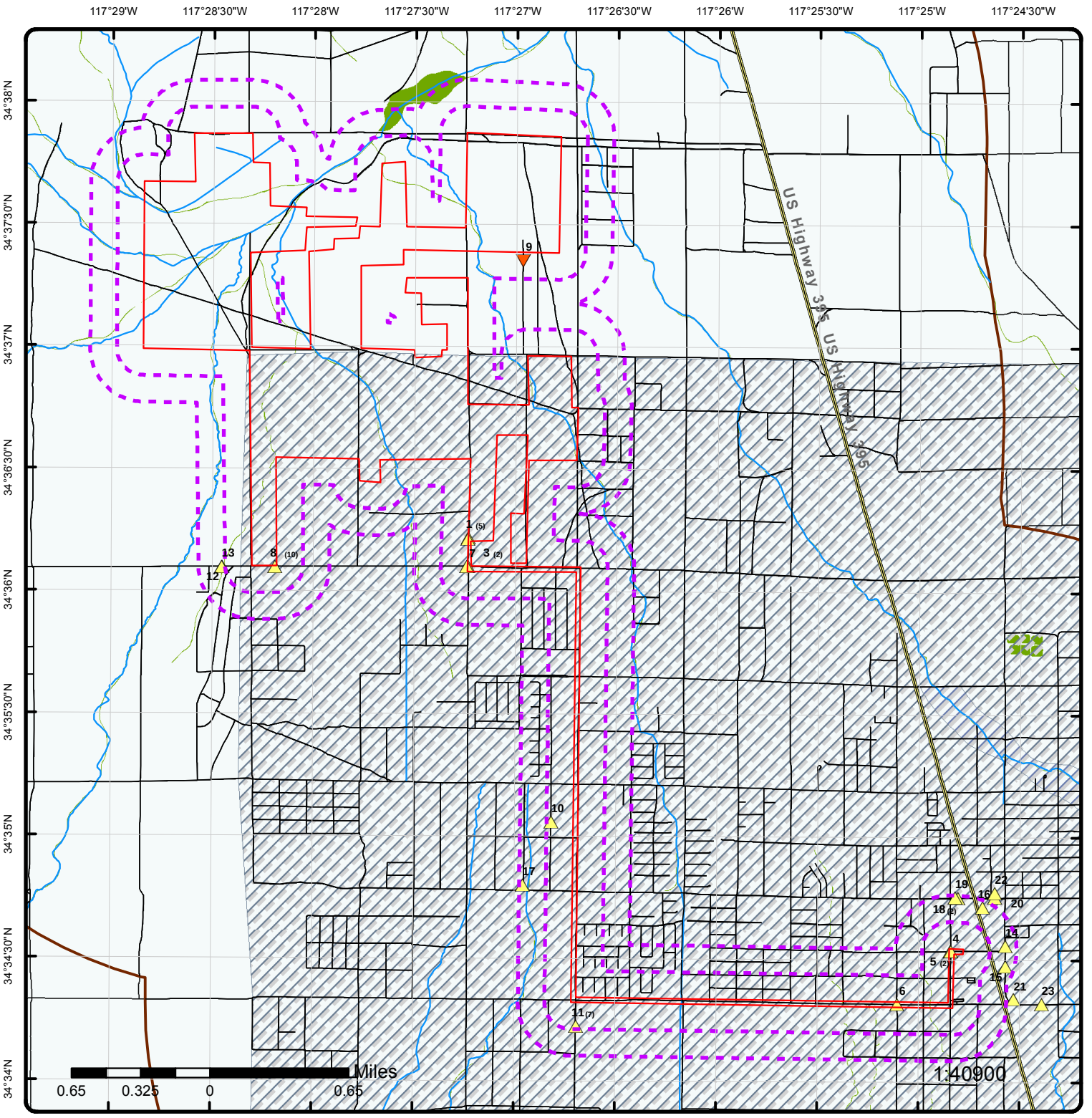
Address: Baldy Mesa Solar, Adelanto, CA, 92301

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

© ERIS Information Inc.



Map : 0.25 Mile Radius

Order No: 20190715309

Address: Baldy Mesa Solar, Adelanto, CA, 92301

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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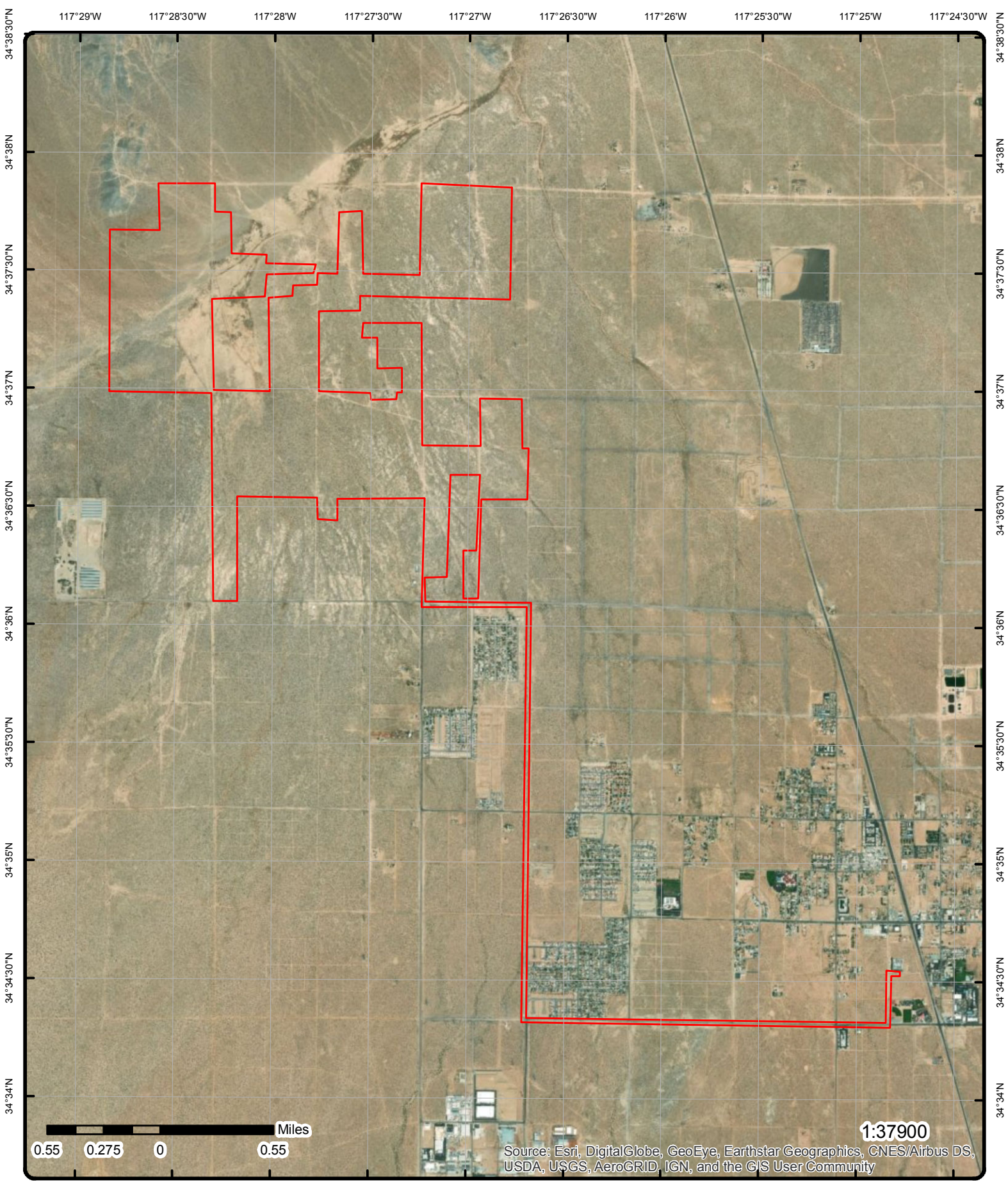

Aerial (2018)

Order No: 20190715309

Address: Baldy Mesa Solar, Adelanto, CA, 92301

Source: ESRI World Imagery

ENVIRONMENTAL RISK INFORMATION SERVICES

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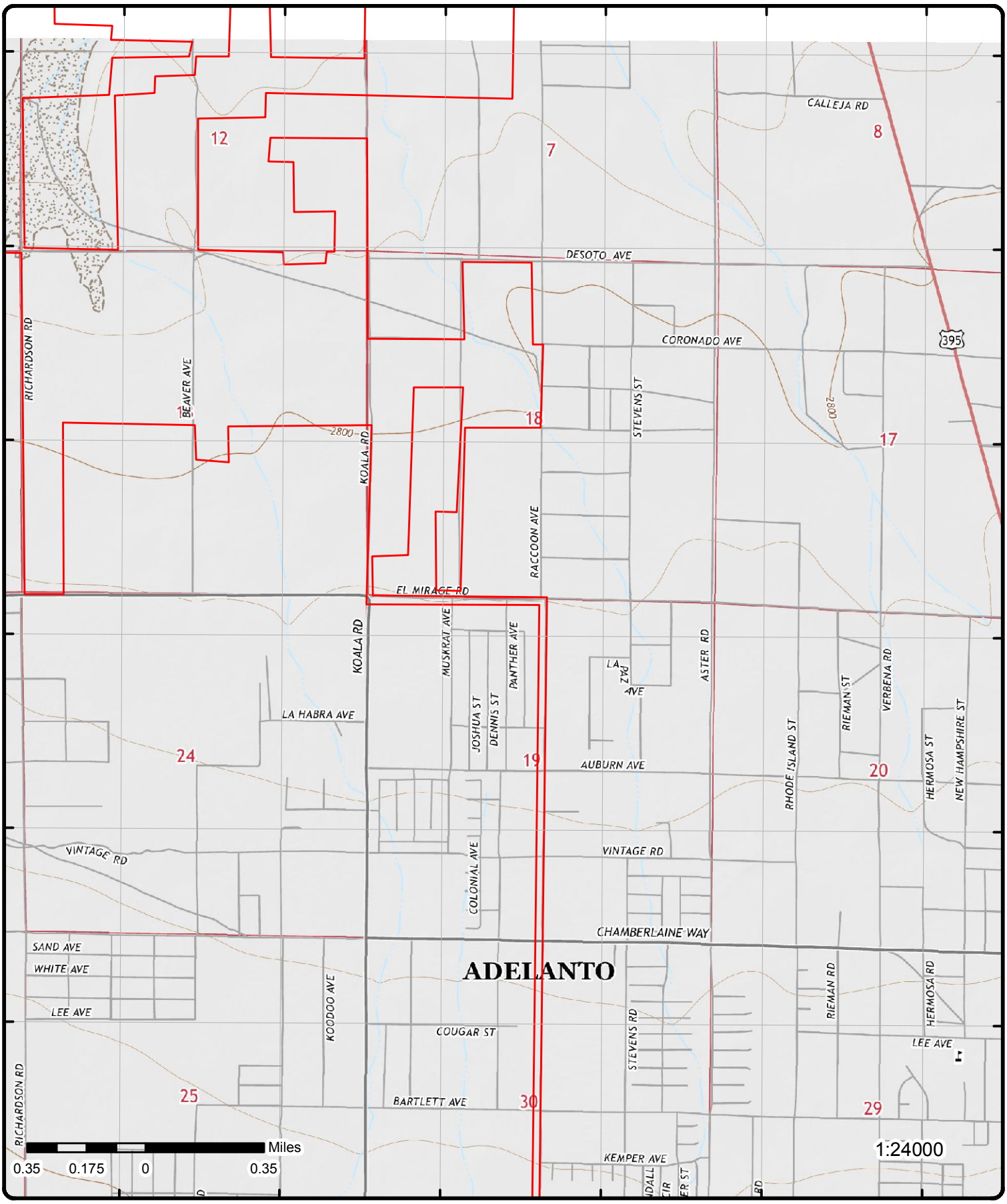

Topographic Map (2015)

Address: Baldy Mesa Solar, Adelanto, CA, 92301

Quadrangle(s): Adelanto,CA

Source: USGS Topographic Map

Order No: 20190715309

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 5	-	0.00 / 0.00	2,814.17 / 34	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA 19408 KOALA RD ADELANTO CA 92301	CERS HAZ

Site ID: 438537
Latitude: 34.600335
Longitude: -117.454030

Regulated Programs

EI Description: Chemical Storage Facilities
EI ID: 10054012

Violations

Violation Date: 04/09/2018
Violation Source: CERS
Violation Program: HMRRP
Violation Division: San Bernardino County Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 04/16/2018. OBSERVATION: The zip code entered for the Owner address in the Business Owner / Operator Identification submitted on 02/27/2018 was incorrect. CORRECTIVE ACTION: Update the Business Owner/Operator Identification Page and submit on the California Environmental Reporting System (CERS).

Violation Description:

Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.

Evaluations

Eval Date: 04/09/2018
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 02/06/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

INSPECTION - BP; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Legal Owner

Entity Name:	Level 3 Communications, LLC
Entity Title:	
Address:	1025 Eldorado Blvd.
City:	Broomfield
State:	CO
Country:	United States
Zip Code:	80021
Phone:	(720) 888-1000

Affil Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	
Address:	1025 Eldorado Blvd, Environmental Management 23-202
City:	Broomfield
State:	CO
Country:	
Zip Code:	80021
Phone:	

Affil Type Desc:	CUPA District
Entity Name:	San Bernardino County Fire
Entity Title:	
Address:	620 South E Street
City:	San Bernardino
State:	CA
Country:	
Zip Code:	92415-0153
Phone:	(909) 386-8401

Affil Type Desc:	Identification Signer
Entity Name:	Robert Gurdikian
Entity Title:	Sr. EHS Manager
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	Environmental Contact
Entity Name:	Robert Gurdikian
Entity Title:	
Address:	1025 Eldorado Blvd, Environmental Management 23-202
City:	Broomfield
State:	CO
Country:	
Zip Code:	80021
Phone:	

Affil Type Desc:	Document Preparer
Entity Name:	Robert Gurdikian
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	Operator
Entity Name:	Level 3 Communications, LLC
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	(720) 888-0676

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Affil Type Desc: Parent Corporation
Entity Name: CenturyLink
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code: HMBP
Program ID: 10054012
Latitude: 34.600331
Longitude: -117.453919
Coord Name:
Ref Point Type Desc: Unknown

1	2 of 5	-	0.00 / 0.00	2,814.17 / 34	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA 19408 Koala Rd ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0012047
Owner Info: Level 3 Communications, LLC
Mailing Care of:
Mailing Address 1: 1025 Eldorado Blvd, Environmental Management 23-202
Mailing Address 2:
Mailing City: Broomfield
Mailing State: CO
Mailing Zip: 80021

Detail(s)

Permit ID: PT0021783
Status: ACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 1/31/2020

Permit ID: PT0021784
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 1/31/2014

1	3 of 5	-	0.00 / 0.00	2,814.17 / 34	LEVEL 3 COMMUNICATIONS - KOALA RD 19408 KOALA RD ADELANTO CA 92301	EMISSIONS

2017 Criteria Data

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:
TOGT: .0011
ROGT: .00096635
COT: .001
NOXT: .02704
SOXT: .002
PMT: .00171026156941649899396378269617706237424 5
PM10T: .0017

2017 Toxic Data

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS: 7.83
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	4 of 5	-	0.00 / 0.00	2,814.17 / 34	LEVEL 3 COMMUNICATIONS - KOALA RD 19408 KOALA RD ADELANTO CA 92301	FINDS/FRS

Registry ID: 110065439519
FIPS Code: 06071
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 13-OCT-2015 09:21:49
Update Date:
Interest Types: AIR EMISSIONS CLASSIFICATION UNKNOWN, STATE MASTER
SIC Codes: 4813
SIC Code Descriptions: TELEPHONE COMMUNICATIONS, EXCEPT RADIOTELEPHONE
NAICS Codes: 517312
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: SAN BERNARDINO
US/Mexico Border Ind:
Latitude: 34.60026
Longitude: -117.4539
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110065439519
Program Acronyms:

CA-ENVIROVIEW:44230, EIS:18257711

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	5 of 5	-	0.00 / 0.00	2,814.17 / 34	EC POWER SYSTEMS 19408 KOALA RD ADELANTO CA 92301	HAZNET

SIC Code: 3825
NAICS Code: 334515
EPA ID: CAL000259255
Create Date: 9/16/2002 2:49:49 PM
Fac Act Ind: No
Inact Date: 6/30/2006
County Code: 36
County Name: San Bernardino
Mail Name:
Mailing Addr 1: 4499 MARKET ST
Mailing City: BOISE
Mailing State: ID
Mailing Zip: 83705
Region Code: 4
Owner Name: WILLIAMS COMMUNICATIONS
Owner Addr 1: ONE TECHNOLOGY CENTER TC-11Z
Owner Addr 2:
Owner City: TULSA
Owner State: OK
Owner Zip: 74102

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Mailing Addr 2: **Owner Phone:** 9185475878
Owner Fax:

Contact Information
-- --
Contact Name: MATT THOMPSON
Street Address 1: 4499 MARKET ST
Street Address 2:
City: BOISE
State: ID
Zip: 83705
Phone: 9185475878
-- --

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 5	-	0.00 / 0.00	2,814.51 / 35	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCACS 19402 Koala Rd ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0012049
Owner Info: Level 3 Communications, LLC
Mailing Care of:
Mailing Address 1: 1025 Eldorado Blvd, Environmental Management 23-202
Mailing Address 2:
Mailing City: Broomfield
Mailing State: CO
Mailing Zip: 80021

Detail(s)

Permit ID: PT0021781
Status: INACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 1/31/2020

Permit ID: PT0021782
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 1/31/2014

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 5	-	0.00 / 0.00	2,814.51 / 35	LEVEL 3 COMMUNICATIONS - KOALA RD 19402 KOALA ROAD ADELANTO CA 92301	EMISSIONS

2012 Toxic Data

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2013 Toxic Data

Facility ID: 132902668
Facility SIC Code: 4813
COID: SBD
DISN: MOJAVE DESERT AQMD

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
CHAPIS:
CERR Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	3 of 5	-	0.00 / 0.00	2,814.51 / 35	WILLIAMS COMMUNICATION - ADELANTO 19402 KOALA ROAD ADELANTO CA 92301	EMISSIONS

2003 Criteria Data

Facility ID: 131002668
Facility SIC Code: 3661
CO: 36
Air Basin: MD
District: MOJ
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:
TOGT: .0006165
ROGT: 0
COT: .005824
NOXT: .0202805
SOXT: .000355
PMT: .0003925
PM10T: 0

2003 Toxic Data

Facility ID: 131002668
Facility SIC Code: 3661
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2007 Toxic Data

Facility ID: 131002668
Facility SIC Code: 3661
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2008 Toxic Data

Facility ID: 131002668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2009 Toxic Data

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility ID: 131002668
Facility SIC Code: 3661
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2010 Toxic Data

Facility ID: 131002668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2011 Toxic Data

Facility ID: 131002668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2	4 of 5	-	0.00 / 0.00	2,814.51 / 35	LEVEL 3 - ADELANTO - ADLNCACS 19402 KOALA RD ADELANTO CA 92301	FINDS/FRS

Registry ID: 110065997611
FIPS Code:
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 14-OCT-2015 09:24:21
Update Date:
Interest Types: STATE MASTER
SIC Codes: 4813
SIC Code Descriptions: TELEPHONE COMMUNICATIONS, EXCEPT RADIOTELEPHONE
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: SAN BERNARDINO COUNT
US/Mexico Border Ind:
Latitude: 34.600242
Longitude: -117.4539
Reference Point:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110065997611
Program Acronyms:

CA-ENVIROVIEW:130530

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	5 of 5	-	0.00 / 0.00	2,814.51 / 35	WILTEL COMMUNICATIONS LLC, ADELANTO, ADLNCA1W 19402 KOALA RD ADELANTO CA 92301	HAZNET

SIC Code:
NAICS Code:
EPA ID: CAC002589888
Create Date: 4/29/2005
Fac Act Ind: No
Inact Date: 10/27/2005
County Code: 36
County Name: San Bernardino
Mail Name: JOHN DANCHERTSEN, HSE SPECIALIST
Mailing Addr 1: 1 TECHNOLOGY CENTER
Mailing Addr 2: AHN HSE DEPT TC 115
Owner Fax:

Mailing City: TULSA
Mailing State: OK
Mailing Zip: 74103
Region Code: 4
Owner Name: WILTEL COMMUNICATIONS LLC
Owner Addr 1: 1 TECHNOLOGY CENTER
Owner Addr 2: AHN HSE DEPT TC 115
Owner City: TULSA
Owner State: OK
Owner Zip: 74103
Owner Phone: 9185475991

Contact Information
-- --
Contact Name: JOHN DANCHERTSEN
Street Address 1: 1 TECHNOLOGY CENTER
Street Address 2: AHN HSE DEPT TC 115
City: TULSA
State: OK
Zip: 74103
Phone: 9183464453
-- --

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 2	-	0.00 / 0.00	2,821.90 / 42	Kinder Morgan El Mirage at Koala Adelanto CA 92868	CHMIRS

Control No:
Notified Date Time:
County: San Bernardino County
URL:

Notified Date: 6/15/200510:41:27 AM
Year: 2005

California Hazardous Material Incident Report System (as of 1997 to 2005)

Contained: Yes
Substance: JP8
Incident Date: 6/15/200512:00:00 AM
No of Injuries: 0
No of Fatals: 0
No of Evacs: 0
Cleanup: Reporting Party
Water:
Water Way:
City: Adelanto
County: San Bernardino County
Zip: 92868
Site: Other
Admin Agency: San Bernardino County Health Department
Location: El Mirage at Koala

Bbls: 0
Cups: 0
Cuft: 0
Gals: 0.000000
Grams: 0
Lbs: 0
Liters: 0
Oz: 1
Pts: 0
Qts: 0
Sheen: 0
Tons: 0
Unknown: 0

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Description:	The caller is reporting seepage from a koala block valve.					

3	2 of 2	-	0.00 / 0.00	2,821.90 / 42	CALNEV PIPELINE LLC CORNER OF KOALA RD & EL MIRAGE RD ADELANTO CA 923010000	HAZNET

SIC Code:		**Mailing City:**	ORANGE
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAC002611662	**Mailing Zip:**	928684600
Create Date:	12/20/2006	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	CALNEV PIPELINE LLC
Inact Date:	6/19/2007	**Owner Addr 1:**	1100 W TOWN AND COUNTRY RD
County Code:	36	**Owner Addr 2:**	
County Name:	San Bernardino	**Owner City:**	ORANGE
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	1100 W TOWN AND COUNTRY RD	**Owner Zip:**	928684600
Mailing Addr 2:		**Owner Phone:**	7145604908
Owner Fax:			

Contact Information	
--	--
Contact Name:	TIM SZTO
Street Address 1:	1100 W TOWN AND COUNTRY RD
Street Address 2:	
City:	ORANGE
State:	CA
Zip:	928684600
Phone:	7145604908
--	--
--	--
Tanner Information	
--	--
Generator EPA ID:	CAC002611662
Generator County Code:	36
Generator County:	San Bernardino
TSD EPA ID:	CAD980884183
TSD County Code:	34
TSD County:	Sacramento
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.9
Year:	2006
--	--

4	1 of 1	-	0.00 / 0.00	2,888.85 / 109	SCE-ROADWAY SUBSTATION LAWSON & DELICIOUS ADELANTO CA 92301	FINDS/FRS

Registry ID:	110066488624
FIPS Code:	
HUC Code:	
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	14-OCT-2015 11:42:51
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	4911
SIC Code Descriptions:	ELECTRIC SERVICES
NAICS Codes:	221122
NAICS Code Descriptions:	ELECTRIC POWER DISTRIBUTION.
Conveyor:	
Federal Facility Code:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: SAN BERNARDINO COUNT
US/Mexico Border Ind:
Latitude: 34.57559
Longitude: -117.414
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110066488624
Program Acronyms:

CA-ENVIROVIEW:65694

5	1 of 2	-	0.00 / 0.00	2,888.85 / 109	SCE-ROADWAY SUBSTATION LAWSON & DELICIOUS ADELANTO CA 92301	AST

Total Capacity(Gal): 9,625
Owner Name: SOUTHERN CALIFORNIA EDISON
CUPA: San Bernardino
County: San Bernardino

5	2 of 2	-	0.00 / 0.00	2,888.85 / 109	SCE Roadway Substation LAWSON AVE & DELICIOUS ST ADELANTO CA 92301	CERS HAZ

Site ID: 65694
Latitude: 34.575590
Longitude: -117.414000

Regulated Programs

EI Description: Chemical Storage Facilities
EI ID: 10034566

Evaluations

Eval Date: 09/28/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS
Eval Notes:

Eval Date: 09/28/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 09/23/2015

Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS
Eval Notes:

INSPECTION - APSA EXEMPT; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 09/23/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

INSPECTION - BP; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Document Preparer
Entity Name: Sepideh Taghdiri
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Environmental Notification Center
Entity Title:
Address: P.O. Box 5085 (Attn: ESD, Programs & Governance)
City: Rosemead
State: CA
Country:
Zip Code: 91770
Phone:

Affil Type Desc: Identification Signer
Entity Name: Sepideh Taghdiri
Entity Title: Consultant
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Legal Owner
Entity Name: Southern California Edison
Entity Title:
Address: P.O. Box 5085 (Attn: ESD, Programs & Governance)
City: Rosemead
State: CA
Country: United States
Zip Code: 91770
Phone: (626) 302-1212

Affil Type Desc: Property Owner
Entity Name: Southern California Edison
Entity Title:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Address:	P.O. Box 5085 (Attn: ESD, Programs & Governance)
City:	Rosemead
State:	CA
Country:	United States
Zip Code:	91770
Phone:	(626) 302-1212
Affil Type Desc:	CUPA District
Entity Name:	San Bernardino County Fire
Entity Title:	
Address:	620 South E Street
City:	San Bernardino
State:	CA
Country:	
Zip Code:	92415-0153
Phone:	(909) 386-8401
Affil Type Desc:	Operator
Entity Name:	Southern California Edison
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	(626) 302-1212
Affil Type Desc:	Parent Corporation
Entity Name:	Southern California Edison, Transmission and Distribution Organization (TD)
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	
Affil Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	
Address:	P.O. Box 5085 (Attn: ESD, Programs & Governance)
City:	Rosemead
State:	CA
Country:	
Zip Code:	91770
Phone:	

6	1 of 1	-	0.00 / 0.00	2,895.37 / 116	**So Ca Edison** **Bellflower and Airexpress Way** **Adelanto CA**	CHMIRS

Control No:		**Notified Date:**	9/12/2013 15:53
Notified Date Time:		**Year:**	2013
County:	San Bernardino County		
URL:			

California Hazardous Material Incident Report System (as of 2006 to 2015)

Contained:	Yes	**3 Yes >= 300 Tons:**	No
1 Substance:	Mineral Oil Non PCB	**Incident Date:**	9/12/2013
1 Measure:	Gal(s)	**Incident Time:**	1510
1 Other:		**Spill Site:**	Road
1 Quantity:	1	**Injuries?:**	No
1 Type:	PETROLEUM	**No of Injuries:**	
1 Pipeline:	No	**Fatals?:**	No
1 Vessel >= 300 Tons:	No	**No of Fatals:**	
2 Substance:		**Evacs?:**	No

2 Quantity:		**No of Evacs:**	
2 Measure:		**Cleanup:**	Reporting Party
2 Type:		**Site:**	
2 Other:		**Cause:**	Human Error
2 Pipeline:	No	**Cause Other:**	
2 Vessel >= 300 Tons:	No	**Dog No:**	
3 Substance:		**Water:**	No
3 Quantity:		**Water Way:**	
3 Measure:		**City:**	Adelanto
3 Type:		**County:**	San Bernardino County
3 Other:		**Zip:**	
3 Pipeline:	No		

Admin Agency: San Bernardino County Fire Department
Notification Area: AA/CUPA,DFG-OSPR,DTSC,RWQCB,US EPA,USFWS,Co/Hlth,Co/E-Hlth
Location: Bellflower and Airexpress Way
Description: Caller states substance was released due to a tractor trailer striking the pole. Caller states substance released to a soil area. Caller states clean-up will be conducted once the equipment moved.

Spill Report View

Amount 1:	1	**Creation Date:**	09/12/2013 03:53 PM
Amount 2:		**Received By:**	
Amount 3:		**Admin Agency:**	San Bernardino County Fire Department
Type:		**Admin Agency 2:**	
Water:	PETROLEUM	**Additional County:**	
On Scene:		**Phone No:**	
Other on Scene:		**Ext:**	
Other Notified:		**Pag Cell:**	
Document Title:	SPILL Report		
Spill Site:			
Cause Desc for Other:			
Person Notifying Cal OES:			

OES Hazardous Materials Spill Update

Notify Date: 09/12/2013
Notify Time: 1553
Occurrence Date: 09/12/2013
Occurrence Time: 1510
Upd Known Impact:
Update Cause:
Pers Notifying Upd Place: Person Notifying Update
Pers Notifying Upd Nme:
Phone No:
Ext:
Pag Cell:
Fax Notifi List:
Person Notifying Cal OES Agenc:
Person Reporting Spill Agency:
Op Area:
Unknown Header:
Substance 1:
Qty Amount 1:
Measure 1:
Type 1:
Other 1:
Pipeline 1:
Vessel >= 300 Tons 1:
Substance 2:
Qty Amount 2:
Measure 2:
Type 2:
Other 2:
Pipeline 2:
Vessel >= 300 Tons 2:
Substance 3:

Qty Amount 3:
Measure 3:
Type 3:
Other 3:
Pipeline 3:
Vessel >= 300 Tons 3:
Administering Agency:
Secondary Agency:
Additional Counties:
Additional Admin Agency:
Other Notified:
RWQCB Unit:
Confirmation Request:
Fax Notification List 2:
Administering Agency 2:
Additional Admin Agency 2:
Secondary Agency 2:
Additional Counties 2:
DOG Unit:
RWQCB Unit 2:
Doc URL: https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/b184b0cee99be88c88257be4007f7646?OpenDocument
NRC:
Update Description:

09/12/2013 04:12:13 PM - The mineral oil is suspected to contain PCB content due to the transformers being from 1957 and 1980. An outside contractor will be hired clean up.

Situation Update:

The mineral oil is suspected to contain PCB content due to the transformers being from 1957 and 1980. An outside contractor will be hired clean up.

Original Description:

OES Hazardous Materials Update Quantities

Amount:
Measure: Gal(s)

OES Hazardous Materials Spill Update

Notify Date: 09/12/2013
Notify Time: 1553
Occurrence Date: 09/12/2013
Occurrence Time: 1510
Upd Known Impact:
Update Cause:
Pers Notifying Upd Place: Person Notifying Update
Pers Notifying Upd Nme:
Phone No:
Ext:
Pag Cell:
Fax Notifi List:
Person Notifying Cal OES Agenc:
Person Reporting Spill Agency:
Op Area:
Unknown Header:
Substance 1:
Qty Amount 1:
Measure 1:
Type 1:
Other 1:
Pipeline 1:
Vessel >= 300 Tons 1:
Substance 2:

Qty Amount 2:
Measure 2:
Type 2:
Other 2:
Pipeline 2:
Vessel >= 300 Tons 2:
Substance 3:
Qty Amount 3:
Measure 3:
Type 3:
Other 3:
Pipeline 3:
Vessel >= 300 Tons 3:
Administering Agency:
Secondary Agency:
Additional Counties:
Additional Admin Agency:
Other Notified:
RWQCB Unit:
Confirmation Request:
Fax Notification List 2:
Administering Agency 2:
Additional Admin Agency 2:
Secondary Agency 2:
Additional Counties 2:
DOG Unit:
RWQCB Unit 2:
Doc URL: https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/d4a996b9852a253c88257c13006ebc60?OpenDocument
NRC:
Update Description:

09/12/2013 04:12:13 PM - The mineral oil is suspected to contain PCB content due to the transformers being from 1957 and 1980. An outside contractor will be hired clean up.
; 10/29/2013 01:09:31 PM - Caller states: The PCB Lab results are less than 2 ppm PCB. Corrected Incident Location: 11366 Chamberlane Way, Adelanto.

Situation Update:

Caller states: The PCB Lab results are less than 2 ppm PCB. Corrected Incident Location: 11366 Chamberlane Way, Adelanto.

Original Description:

OES Hazardous Materials Update Quantities

Amount:
Measure: Gal(s)

7	1 of 1	SSE	0.00 / 7.40	2,821.97 / 42	san bernardino co fire/haz mat el mirage rd & kaoala adelanto CA	CHMIRS

Control No:
Notified Date Time: 11:25:54 AM
County: SAN BERNARDINO
URL:
Notified Date: 12/10/1996
Year: 1996

California Hazardous Material Incident Report System (as of 1993 to 1996)

Contained: NO
Substance: unleaded gasoline
Type: PETROLEUM
Qty:
Other:
Measure:
Incident Date: 0630 10Dec96
Injuries?: NO
Fatals?: NO
Evacs?: NO
Cleanup: unknown
Site:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Amount: 1,000 gals
Water: YES
Water Way:
Location: el mirage rd & kaoala
Description: williams transport was enroute to nearby gas station for a delivery, rolling his rear trailer spilling gasoline to the ground.
City: adelanto
County: SAN BERNARDINO
Zip:

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8 | **1 of 10** | **SSW** | **0.00 / 26.08** | **2,822.34 / 43** | **LEVEL 3 COMMUNICATIONS LLC**
8981 EL MIRAGE
ADELANTO CA 92301 | **AST**

Total Capacity(Gal): 1,494
CUPA: San Bernardino
Owner Name: LEVEL 3 COMMUNICATIONS
County: San Bernardino

---

8 | **2 of 10** | **SSW** | **0.00 / 26.08** | **2,822.34 / 43** | **LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCAAO**
8981 EL MIRAGE RD
ADELANTO CA 92301 | **SANBERN CUPA**

Facility ID: FA0007478
Owner Info: Level 3 Communications, LLC
Mailing Care of:
Mailing Address 1: 1025 Eldorado Blvd, Environmental Management-43C
Mailing Address 2:
Mailing City: Broomfield
Mailing State: CO
Mailing Zip: 80021

Detail(s)

Permit ID: PT0014942
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 11/30/2013

Permit ID: PT0012739
Status: ACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 11/30/2019

Permit ID: PT0012738
Status: ACTIVE
Program Element Code: 4031
Permit Desc: APSA 1,320-10,000 GAL FAC CAPACITY
To: 11/30/2019

Permit ID: PT0012740
Status: INACTIVE
Program Element Code: 4004
Permit Desc: AST OPERATING PERMIT
To: 11/30/2004

---

8 | **3 of 10** | **SSW** | **0.00 / 26.08** | **2,822.34 / 43** | **LEVEL 3 COMMUNICATIONS - EL MIRAGE RD**
8981 EL MIRAGE ROAD
ADELANTO CA 92301 | **EMISSIONS**

2012 Criteria Data

Facility ID: 132901704
CERR Code:

Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	.00227984016
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	.0016931648

2012 Toxic Data

Facility ID:	132901704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2013 Criteria Data

Facility ID:	132901704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	.00227984016
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	.0016931648

2013 Toxic Data

Facility ID:	132901704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2017 Criteria Data

Facility ID:	132901704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	0
CO:	36	**ROGT:**	0
Air Basin:	MD	**COT:**	0
District:	MOJ	**NOXT:**	0
COID:	SBD	**SOXT:**	0
DISN:	MOJAVE DESERT AQMD	**PMT:**	0
CHAPIS:		**PM10T:**	0

2017 Toxic Data

Facility ID:	132901704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	0		
Health Risk Asmt:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Non-Cancer Chronic Haz Ind:						
Non-Cancer Acute Haz Ind:						
8	4 of 10	SSW	0.00 / 26.08	2,822.34 / 43	**INTEGRA TELECOM ADELANTO** **8981 EL MIRAGE RD.** **ADELANTO CA 90231**	EMISSIONS

2017 Criteria Data

Facility ID:	194603227	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0031125
CO:	36	**ROGT:**	.00028977375
Air Basin:	MD	**COT:**	.0048375
District:	MOJ	**NOXT:**	.0052125
COID:	SBD	**SOXT:**	.0000131
DISN:	MOJAVE DESERT AQMD	**PMT:**	.000188631790744466800804828973843058350101
CHAPIS:		**PM10T:**	.0001875

2017 Toxic Data

Facility ID:	194603227	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	.01		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	5 of 10	SSW	0.00 / 26.08	2,822.34 / 43	**BROADWING COMMUNICATION ADELCA03** **8981 EL MIRAGE ROAD** **ADELANTO CA 92301**	EMISSIONS

2003 Criteria Data

Facility ID:	93601704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	0
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	0

2003 Toxic Data

Facility ID:	93601704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2007 Criteria Data

Facility ID:	93601704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	.00227984016
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	.0016931648

2007 Toxic Data

Facility ID:	93601704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2008 Criteria Data

Facility ID:	93601704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	.00227984016
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	.0016931648

2008 Toxic Data

Facility ID:	93601704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2009 Criteria Data

Facility ID:	93601704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	.00227984016
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	.0016931648

2009 Toxic Data

Facility ID:	93601704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

District: MOJ
TS: 9.67
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:

2010 Toxic Data

Facility ID:	93601704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2011 Criteria Data

Facility ID:	93601704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	.00227984016
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	.0016931648

2011 Toxic Data

Facility ID:	93601704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	6 of 10	SSW	0.00 / 26.08	2,822.34 / 43	LEVEL 3 COMMUNICATIONS LLC 8981 EL MIRAGE RD ADELANTO CA 92301	FINDS/FRS

Registry ID: 110064924523
FIPS Code:
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 10-OCT-2015 07:29:32
Update Date:
Interest Types: STATE MASTER
SIC Codes: 4813
SIC Code Descriptions: TELEPHONE COMMUNICATIONS, EXCEPT RADIOTELEPHONE
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

EPA Region Code: 09
County Name: SAN BERNARDINO COUNT
US/Mexico Border Ind:
Latitude: 34.601663
Longitude: -117.470202
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110064924523
Program Acronyms:

CA-ENVIROVIEW:130551

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	7 of 10	SSW	0.00 / 26.08	2,822.34 / 43	BROADWING COMMUNICATION ADELCA03 8981 EL MIRAGE ROAD ADELANTO CA 92301-0000	FINDS/FRS

Registry ID: 110038091418
FIPS Code: 06071
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 18-FEB-2009 08:32:27
Update Date: 01-JUN-2017 17:18:51
Interest Types: AIR EMISSIONS CLASSIFICATION UNKNOWN
SIC Codes:
SIC Code Descriptions:
NAICS Codes: 517210
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: SAN BERNARDINO
US/Mexico Border Ind:
Latitude: 34.601663
Longitude: -117.470202
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110038091418
Program Acronyms:

EIS:10119211

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	8 of 10	SSW	0.00 / 26.08	2,822.34 / 43	INTEGRA TELECOM ADELANTO 8981 EL MIRAGE RD. ADELANTO CA 90231	FINDS/FRS

Registry ID: 110070521841
FIPS Code: 06071
HUC Code:
Site Type Name: STATIONARY
Location Description:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Supplemental Location:
Create Date: 04-MAR-2019 13:28:11
Update Date:
Interest Types: AIR EMISSIONS CLASSIFICATION UNKNOWN
SIC Codes:
SIC Code Descriptions:
NAICS Codes: 517312
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: SAN BERNARDINO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070521841
Program Acronyms:

EIS:18261511

8	9 of 10	SSW	0.00 / 26.08	2,822.34 / 43	**ELECTRIC LIGHTWAVE INC** **ADELANTO** **8981 EL MIRAGE RD** **ADELANTO CA 92301**	HAZNET

SIC Code: 9999
NAICS Code: 99999
EPA ID: CAL000292554
Create Date: 3/25/2005 9:02:26 AM
Fac Act Ind: No
Inact Date: 6/30/2006
County Code: 36
County Name: San Bernardino
Mail Name: LINDA GAILEY
Mailing Addr 1: PO BOX 10286
Mailing Addr 2:
Owner Fax:

Mailing City: PORTLAND
Mailing State: OR
Mailing Zip: 97296
Region Code: 4
Owner Name: ELECTRIC LIGHTWAVE INC
Owner Addr 1: 4400 NE 77TH AVE
Owner Addr 2:
Owner City: VANCOUVER
Owner State: WA
Owner Zip: 986626829
Owner Phone: 3608163000

Contact Information
-- --
Contact Name: LEE STAUBER
Street Address 1: 313 N 3RD AVE
Street Address 2:
City: PHOENIX
State: AZ
Zip: 85003
Phone: 8668166505
-- --
-- --
Tanner Information
-- --
Generator EPA ID: CAL000292554
Generator County Code: 36
Generator County: San Bernardino
TSD EPA ID: INR000110197
TSD County Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

TSD County:	
State Waste Code:	791
State Waste Code Desc.:	Liquids with pH <= 2
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.001
Year:	2011
--	--
Generator EPA ID:	CAL000292554
Generator County Code:	36
Generator County:	San Bernardino
TSD EPA ID:	INR000110197
TSD County Code:	
TSD County:	
State Waste Code:	311
State Waste Code Desc.:	Pharmaceutical waste
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0015
Year:	2011
--	--
Generator EPA ID:	CAL000292554
Generator County Code:	36
Generator County:	San Bernardino
TSD EPA ID:	INR000110197
TSD County Code:	
TSD County:	
State Waste Code:	561
State Waste Code Desc.:	Detergent waste chemicals
Method Code:	
Method Description:	
Tons:	0.0035
Year:	2011
--	--

8	***10 of 10***	***SSW***	***0.00 / 26.08***	***2,822.34 / 43***	***BROADWING-ADELANTO 8981 EL MIRAGE RD ADELANTO CA 92301***	***HAZNET***

SIC Code:	4899	**Mailing City:**	PALMDALE
NAICS Code:	51339	**Mailing State:**	CA
EPA ID:	CAL000292633	**Mailing Zip:**	93550
Create Date:	3/29/2005 10:24:05 AM	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	BROADWING COMMUNICATIONS
Inact Date:	6/30/2005	**Owner Addr 1:**	1122 CAPITAL OF TEXAS HWY S
County Code:	36	**Owner Addr 2:**	
County Name:	San Bernardino	**Owner City:**	AUSTIN
Mail Name:		**Owner State:**	TX
Mailing Addr 1:	37918 6TH ST E	**Owner Zip:**	78746
Mailing Addr 2:		**Owner Phone:**	8008475705
Owner Fax:			

Contact Information

--	--
Contact Name:	JOHN RAMIREZ
Street Address 1:	37918 6TH ST E
Street Address 2:	
City:	PALMDALE
State:	CA
Zip:	93550
Phone:	7609547649
--	--

9	***1 of 1***	***ENE***	***0.04 / 201.83***	***2,771.29 / -9***	***ADELANTO, CITY OF - MUSKRAT AVE***	***EMISSIONS***

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
					20039 MUSKRAT AVENUE ADELANTO CA 92301	

2017 Criteria Data

Facility ID:	50401695	**CERR Code:**	
Facility SIC Code:	4941	**TOGT:**	.00192088787706317586795674445076835515082 5
CO:	36	**ROGT:**	.0016875
Air Basin:	MD	**COT:**	.00459
District:	MOJ	**NOXT:**	.021105
COID:	SBD	**SOXT:**	.00000936
DISN:	MOJAVE DESERT AQMD	**PMT:**	.002151
CHAPIS:		**PM10T:**	.002151

2017 Toxic Data

Facility ID:	50401695	**COID:**	SBD
Facility SIC Code:	4941	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	1.57		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	***1 of 1***	***SSE***	***0.10 / 548.54***	***2,862.66 / 83***	***VERIZON-PANTHER RCC2 18431 PANTHER AVE ADELANTO CA 92301***	***SANBERN CUPA***

Facility ID:	FA0003579
Owner Info:	Frontier California Inc.
Mailing Care of:	ZACHARY FEINGOLD
Mailing Address 1:	280 S. Locust Street
Mailing Address 2:	
Mailing City:	Pomona
Mailing State:	CA
Mailing Zip:	91766

Detail(s)

Permit ID:	PT0009051
Status:	INACTIVE
Program Element Code:	4221
Permit Desc:	HAZMAT HANDLER 0-10 EMPLOYEES
To:	8/31/2013

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	***1 of 7***	***SSE***	***0.11 / 592.36***	***2,902.08 / 122***	***CITY OF ADELANTO PUBLIC WORKS 17451 RACCOON AVE ADELANTO CA 92301***	***SANBERN CUPA***

Facility ID:	FA0014337
Owner Info:	CITY OF ADELANTO
Mailing Care of:	
Mailing Address 1:	11600 AIR EXPRESSWAY
Mailing Address 2:	
Mailing City:	ADELANTO
Mailing State:	CA
Mailing Zip:	92301

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Detail(s)

Permit ID: PT0025629
Status: INACTIVE
Program Element Code: 4453
Permit Desc: SMALL QUANTITY GENERATOR
To: 4/30/2019

Permit ID: PT0025628
Status: INACTIVE
Program Element Code: 4243
Permit Desc: HAZARDOUS MATERIALS 4-10 CHEMICALS
To: 4/30/2019

11	*2 of 7*	*SSE*	*0.11 / 592.36*	*2,902.08 / 122*	***R.L.T. ENTERPRISES*** ***17451 RACCOON AVE*** ***ADELANTO CA 92301***	***SANBERN CUPA***

Facility ID: FA0007954
Owner Info: TRINDLE, RHONDA L.
Mailing Care of: RHONDA L. TRINDLE
Mailing Address 1: P.O. BOX 401549
Mailing Address 2:
Mailing City: HESPERIA
Mailing State: CA
Mailing Zip: 92340

Detail(s)

Permit ID: PT0013898
Status: INACTIVE
Program Element Code: 4221
Permit Desc: HAZMAT HANDLER 0-10 EMPLOYEES
To: 9/30/2005

Permit ID: PT0013899
Status: INACTIVE
Program Element Code: 4410
Permit Desc: HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES
To: 9/30/2004

11	*3 of 7*	*SSE*	*0.11 / 592.36*	*2,902.08 / 122*	***CITY OF ADELANTO PUBLIC WORKS*** ***17451 RACCOON AVE*** ***ADELANTO CA 92301***	***DELISTED CTNK***

Site ID: 19378
Latitude: 34.566753
Longitude: -117.444883
Original Source: CTNK
Record Date: 22-MAR-2018

11	*4 of 7*	*SSE*	*0.11 / 592.36*	*2,902.08 / 122*	***CITY OF ADELANTO PUBLIC WORKS YARD*** ***17451 RACOON AVE.*** ***ADELANTO CA 92301***	***EMISSIONS***

2016 Criteria Data

Facility ID: 50402013
Facility SIC Code: 4941
CO: 36
CERR CODE:
TOGT: .0028281
ROGT: .00248448585

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Air Basin:	MD	**COT:**	
District:	MOJ	**NOXT:**	.0290064
COID:	SBD	**SOXT:**	.000017
DISN:	MOJAVE DESERT AQMD	**PMT:**	.002039
CHAPIS:		**PM10T:**	.001990064
Facility ID:	50403363	**CERR CODE:**	
Facility SIC Code:	4941	**TOGT:**	.000924871940808195788275469550369948776323
CO:	36	**ROGT:**	.0008125
Air Basin:	MD	**COT:**	.0028125
District:	MOJ	**NOXT:**	.0150625
COID:	SBD	**SOXT:**	.0000292
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0005
CHAPIS:		**PM10T:**	.0005
Facility ID:	50402477	**CERR CODE:**	
Facility SIC Code:	4941	**TOGT:**	.001365964712578258394991462720546385885031
CO:	36	**ROGT:**	.0012
Air Basin:	MD	**COT:**	.003264
District:	MOJ	**NOXT:**	.015008
COID:	SBD	**SOXT:**	.00000666
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0015296
CHAPIS:		**PM10T:**	.0015296
Facility ID:	50401183	**CERR CODE:**	
Facility SIC Code:	4941	**TOGT:**	.000043255549231644849174729652817302219692 66
CO:	36	**ROGT:**	.000038
Air Basin:	MD	**COT:**	.000604616
District:	MOJ	**NOXT:**	.000722084
COID:	SBD	**SOXT:**	.0000013
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0000432
CHAPIS:		**PM10T:**	.0000432
Facility ID:	50401227	**CERR CODE:**	
Facility SIC Code:	4941	**TOGT:**	.001280591918042117245304496300512236767217
CO:	36	**ROGT:**	.001125
Air Basin:	MD	**COT:**	.00306
District:	MOJ	**NOXT:**	.01407
COID:	SBD	**SOXT:**	.00000624
DISN:	MOJAVE DESERT AQMD	**PMT:**	.001434
CHAPIS:		**PM10T:**	.001434
Facility ID:	50401175	**CERR CODE:**	
Facility SIC Code:	4941	**TOGT:**	.000238908366533864541832669322709163346614
CO:	36	**ROGT:**	.000209881
Air Basin:	MD	**COT:**	.000229314
District:	MOJ	**NOXT:**	.004496894
COID:	SBD	**SOXT:**	.00000177
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0000972
CHAPIS:		**PM10T:**	.0000972
Facility ID:	50401695	**CERR CODE:**	
Facility SIC Code:	4941	**TOGT:**	.001920887877063175867956744450768355150825
CO:	36	**ROGT:**	.0016875
Air Basin:	MD	**COT:**	.00459
District:	MOJ	**NOXT:**	.021105
COID:	SBD	**SOXT:**	.00000936
DISN:	MOJAVE DESERT AQMD	**PMT:**	.002151
CHAPIS:		**PM10T:**	.002151

2016 Toxic Data

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility ID:	50402477	**TS:**	1.4
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

Facility ID:	50402013	**TS:**	.59
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

Facility ID:	50401695	**TS:**	1.57
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

Facility ID:	50401227	**TS:**	1.34
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

Facility ID:	50403363	**TS:**	2.62
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

Facility ID:	50401183	**TS:**	.7
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

Facility ID:	50401175	**TS:**	.7
Facility SIC Code:	4941	**HRA:**	
CERR CODE:		**CH Index:**	
COID:	SBD	**AH Index:**	
CO:	36	**Air Basin:**	MD
DISN:	MOJAVE DESERT AQMD	**District:**	MOJ
CHAPIS:			

11	*5 of 7*	*SSE*	*0.11 / 592.36*	*2,902.08 / 122*	***ADELANTO, CITY OF - CITY YARD*** ***17451 RACCOON AVE.*** ***ADELANTO CA 92301***	***EMISSIONS***

2017 Criteria Data

Facility ID:	50403363	**CERR Code:**	
Facility SIC Code:	4941	**TOGT:**	.000924871940808195788275469550369948776323
CO:	36	**ROGT:**	.0008125

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Air Basin:	MD	**COT:**	.0028125
District:	MOJ	**NOXT:**	.0150625
COID:	SBD	**SOXT:**	.0000292
DISN:	MOJAVE DESERT AQMD	**PMT:**	.000503018108651911468812877263581488933602
CHAPIS:		**PM10T:**	.0005

2017 Toxic Data

Facility ID:	50403363	**COID:**	SBD
Facility SIC Code:	4941	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	2.62		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

11	6 of 7	SSE	0.11 / 592.36	2,902.08 / 122	**R L T ENTERPRISES** **17451 RACCOON NO 9** **ADELANTO CA 92301**	**RCRA NON GEN**

EPA Handler ID:	CAR000112375
Gen Status Universe:	No Report
Contact Name:	ALAN L TRINDLE SR
Contact Address:	P O BOX 401549 , , HESPERIA , CA, 92340 , US
Contact Phone No and Ext:	909-841-7511
Contact Email:	
Contact Country:	US
County Name:	SAN BERNARDINO
EPA Region:	09
Land Type:	Private
Receive Date:	20050504

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated June, 2019.

Violation Details

Citation:	
Violation Short Description:	Generators - General
Violation Type:	262.A
Violation Determined Date:	20050809
Scheduled Compliance Date:	
Return to Compliance:	Documented
Actual Return to Compl:	20050809
Violation Responsible Agency:	State

Enforcement Details

Enforcement Type:	112
Enforcement Type Description:	
Enforcement Action Date:	20050809
Enf Disposition Status:	
Disposition Status Date:	
Enforcement Lead Agency:	State
Proposed Penalty Amount:	
Final Amount:	
Paid Amount:	

Violation Details

Citation:
Violation Short Description: Transporters - Manifest and Recordkeeping
Violation Type: 263.B
Violation Determined Date: 20050809
Scheduled Compliance Date:
Return to Compliance: Documented
Actual Return to Compl: 20060131
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 140
Enforcement Type Description: LETTER OF INTENT TO INITIATE ENFORCEMENT ACTION
Enforcement Action Date: 20050923
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 385
Enforcement Type Description: SINGLE SITE CA/FO
Enforcement Action Date: 20060214
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 3320
Paid Amount:

Enforcement Type: 112
Enforcement Type Description:
Enforcement Action Date: 20050809
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Evaluation Details

Evaluation Start Date: 20060131
Evaluation Type Description: NOT A SIGNIFICANT NON-COMPLIER
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 20050809
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 20050809
Evaluation Agency: State

Evaluation Start Date: 20050809
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Transporters - Manifest and Recordkeeping
Return to Compliance Date: 20060131
Evaluation Agency: State

Evaluation Start Date: 20050809
Evaluation Type Description: SIGNIFICANT NON-COMPLIER
Violation Short Description:

Return to Compliance Date:
Evaluation Agency: State

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20020211
Handler Name: R L T ENTERPRISES
Generator Status Universe: No Report
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20050504
Handler Name: R L T ENTERPRISES
Generator Status Universe: No Report
Source Type: Notification

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: RHONDA L TRINDLE
Date Became Current:
Date Ended Current:
Phone: 760-559-3965
Source Type: Notification
Street No:
Street 1: P O BOX 401549
Street 2:
City: HESPERIA
State: CA
Country:
Zip Code: 92340

Owner/Operator Ind: Current Owner
Type: Private
Name: RHONDA TRINDLE
Date Became Current: 20000915
Date Ended Current:
Phone:
Source Type: Notification
Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Operator
Type: Private
Name: ALAN TRINDLE SR
Date Became Current: 20000915
Date Ended Current:
Phone:
Source Type: Notification
Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	7 of 7	SSE	0.11 / 592.36	2,902.08 / 122	CITY OF ADELANTO 17451 RACOON AVE ADELANTO CA 92301-2271	RCRA NON GEN

EPA Handler ID: CAL000376754
Gen Status Universe: No Report
Contact Name: WILLIAM RINKER
Contact Address: 11600 AIR EXPY , , ADELANTO , CA, 92301 ,
Contact Phone No and Ext: 760-559-1690
Contact Email: WILLIAM_RINKER5@MSN.COM
Contact Country:
County Name: SAN BERNARDINO
EPA Region: 09
Land Type:
Receive Date: 20120730

Violation/Evaluation Summary

Note: NO RECORDS: As of June 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20120730
Handler Name: CITY OF ADELANTO
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: CITY OF ADELANTO
Date Became Current:
Date Ended Current:
Phone: 760-246-2300
Source Type: Implementer
Street No:
Street 1: 11600 AIR EXPY
Street 2:
City: ADELANTO
State: CA
Country:
Zip Code: 92301-1914

Owner/Operator Ind: Current Operator
Type: Other
Name: WILLIAM RINKER
Date Became Current:
Date Ended Current:
Phone: 760-559-1690
Source Type: Implementer
Street No:
Street 1: 11600 AIR EXPY
Street 2:
City: ADELANTO
State: CA
Country:
Zip Code: 92301

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
12	1 of 1	SW	0.14 / 727.67	2,824.24 / 44	AEROCHEM INC 8801 EL MIRAGE RD ADELANTO CA 92301	LUST

Global ID: T0607100698
Status: COMPLETED - CASE CLOSED
Status Date: 1990-05-01 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: SAN BERNARDINO
Latitude: 34.6016349
Longitude: -117.4741476

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No: 6B3600157T
Local Case No: CAD093245645
Begin Date: 1990-04-30 00:00:00
Lead Agency: DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Local Agency: SAN BERNARDINO COUNTY
CUF Case: NO
Potential Media of Concern: Under Investigation
How Discovered Description:
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
DWR GW Subbasin Name: Upper Mojave River Valley (6-042)
Disadvantaged Community:
Site History:
Potential COC: * Solvents
How Discovered: Subsurface Monitoring
Stop Method:
Stop Description:
Case Worker:
File Location:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2002-04-03 00:00:00
Action: Staff Letter

Action Type: Other
Date : 1990-05-01 00:00:00
Action: Leak Discovery

Action Type: ENFORCEMENT
Date : 1990-05-01 00:00:00
Action: Referral to Other State Agency

Action Type: Other
Date : 1990-05-01 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1990-05-01 00:00:00
Action: Leak Stopped

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: CATHERINE RICHARDS
City: SAN BERNARDINO
Organization Name: SAN BERNARDINO COUNTY
Address: 620 SOUTH E STREET
Email: crichards@sbcfire.org
Phone No: 9093868419

Status History

Status: Completed - Case Closed
Status Date: 1990-05-01 00:00:00

Status: Open - Site Assessment
Status Date: 1990-04-30 00:00:00

Status: Open - Case Begin Date
Status Date: 1990-04-30 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile (as of Jan 18, 2019)

Site Facility Name: AEROCHEM INC
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: SOLVENTS
WDR Place Type:
WDR File:
WDR Order:
File Location:
Address: 8801 EL MIRAGE RD
City: ADELANTO
Zip: 92301
County: SAN BERNARDINO
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:
Designated Beneficial Use: MUN, AGR, IND, FRSH
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0607100698
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/1/1990
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0607100698&tabname=regulatoryhistory
Potential Media of Concern: UNDER INVESTIGATION
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Mojave River Valley (6-042)
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: DEPARTMENT OF TOXIC SUBSTANCES CONTROL (LEAD) - CASE #: CAD093245645
LAHONTAN RWQCB (REGION 6V) - CASE #: 6B3600157T
SAN BERNARDINO COUNTY - CASE #: 90228
CASEWORKER: CATHERINE RICHARDS
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Status History (as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 5/1/1990

Status: Open - Site Assessment
Date : 4/30/1990

Status: Open - Case Begin Date
Date : 4/30/1990

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities (as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 4/3/2002
Received Issue Date: 4/3/2002
Action: Staff Letter
Doc Link:
Title Description Comments:

AEO-signed mass mailed letter reminding RP of EDF submittal requirement per AB 2886

Action Type: Referral to Other Agency
Action Date: 5/1/1990
Received Issue Date: 5/1/1990
Action: Referral to Other State Agency
Doc Link:
Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Action Type: Leak Action
Action Date: 5/1/1990
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 5/1/1990
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 5/1/1990
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

13	1 of 1	SW	0.14 / 742.35	2,824.22 / 44	AEROCHEM 8801 EL MIRAGE HWY SHEEP CREEK EL MIRAGE CA 92301	HHSS

County: San Bernardino
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002989c.pdf

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14	1 of 1	SE	0.20 / 1,047.14	2,887.54 / 108	ADELANTO SCHOOL DIST 17927 JONATHAN RD ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0005945
Owner Info: ADELANTO SCHOOL DISTRICT
Mailing Care of:
Mailing Address 1: P O BOX 70
Mailing Address 2:
Mailing City: ADELANTO
Mailing State: CA
Mailing Zip: 92301-9230

Detail(s)

Permit ID: PT0006867
Status: INACTIVE
Program Element Code: 4221
Permit Desc: HAZMAT HANDLER 0-10 EMPLOYEES
To: 9/30/2005

15	1 of 1	SE	0.21 / 1,102.35	2,892.30 / 112	A BEST BUY AUTOMOTIVE 17845 JONATHAN ST ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0000268
Owner Info: DI STEFANO, FRANK
Mailing Care of: FRANK DISTEFANO
Mailing Address 1: 17845 JONATHAN STREET
Mailing Address 2:
Mailing City: ADELANTO
Mailing State: CA
Mailing Zip: 92301

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Detail(s)

Permit ID: PT0006530
Status: INACTIVE
Program Element Code: 4420
Permit Desc: SPECIAL GENERATOR
To: 11/30/2007

Permit ID: PT0014218
Status: INACTIVE
Program Element Code: 4210
Permit Desc: SPECIAL HANDLER
To: 11/30/2007

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	1 of 1	SE	0.21 / 1,135.19	2,881.95 / 102	HARKEN MARKETING #100854 11605 BARTLETT AVE ADELANTO CA 92301	LUST

Global ID: T0607100702
Status: COMPLETED - CASE CLOSED
Status Date: 1990-07-05 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: SAN BERNARDINO
Latitude: 34.578573
Longitude: -117.411374

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No: 6B3600168T
Local Case No: 90144
Begin Date: 1989-12-28 00:00:00
Lead Agency: SAN BERNARDINO COUNTY
Local Agency: SAN BERNARDINO COUNTY
CUF Case: NO
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
DWR GW Subbasin Name: Upper Mojave River Valley (6-042)
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method:
Stop Description:
Case Worker: CB
File Location: Local Agency

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2002-04-03 00:00:00
Action: Staff Letter

Action Type: Other
Date : 1990-02-05 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1990-01-05 00:00:00
Action: Leak Discovery

Action Type: Other
Date : 1989-12-28 00:00:00
Action: Leak Stopped

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: CURTIS BRUNDAGE
Address: 620 S. E STREET
Email: cbrundage@sbcfire.org

City: SAN BERNARDINO ***Phone No:***
Organization Name: SAN BERNARDINO COUNTY

Status History

Status: Completed - Case Closed
Status Date: 1990-07-05 00:00:00

Status: Open - Case Begin Date
Status Date: 1989-12-28 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile (as of Jan 18, 2019)

Site Facility Name: HARKEN MARKETING #100854
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 11605 BARTLETT AVE
City: ADELANTO
Zip: 92301
County: SAN BERNARDINO
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, FRSH
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0607100702
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 7/5/1990
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0607100702&tabname=regulatoryhistory
Potential Media of Concern: SOIL
User Defined Beneficial Use: SW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin: Upper Mojave River Valley (6-042)
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SAN BERNARDINO COUNTY (LEAD) - CASE #: 90144
CASEWORKER: CURTIS BRUNDAGE
LAHONTAN RWQCB (REGION 6V) - CASE #: 6B3600168T
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Status History (as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 7/5/1990

Status: Open - Case Begin Date
Date : 12/28/1989

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities (as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 4/3/2002
Received Issue Date: 4/3/2002
Action: Staff Letter
Doc Link:
Title Description Comments:

AEO-signed mass mailed letter reminding RP of EDF submittal requirement per AB 2886

Action Type: Leak Action
Action Date: 2/5/1990
Received Issue Date:
Action: Leak Reported

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 1/5/1990
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 12/28/1989
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

17	1 of 1	SSE	0.23 / 1,234.61	2,873.22 / 93	MOCKETT ENTERPRISES 18000 MUSKRAT AVE ADELANTO CA 92301	RCRA NON GEN

EPA Handler ID: CAR000129510
Gen Status Universe: No Report
Contact Name: WILLIAM MOCKETT
Contact Address: 11986 CALCITE AVE , , HESPERIA , CA, 92345 , US
Contact Phone No and Ext: 760-244-2849
Contact Email:
Contact Country: US
County Name: SAN BERNARDINO
EPA Region: 09
Land Type: Private
Receive Date: 20021021

Violation/Evaluation Summary

Note: NO RECORDS: As of June 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20021021
Handler Name: MOCKETT ENTERPRISES
Generator Status Universe: No Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Source Type: Notification

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	11986 CALCITE AVE
Name:	WILLIAM MOCKETT	**Street 2:**	
Date Became Current:		**City:**	HESPERIA
Date Ended Current:		**State:**	CA
Phone:	760-244-2849	**Country:**	
Source Type:	Notification	**Zip Code:**	92345

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
18	1 of 2	SE	0.24 / 1,249.48	2,879.30 / 99	Family Dollar Store #10458 11545 Bartlett Ave Adelanto CA 92301	SANBERN CUPA

Facility ID: FA0016082
Owner Info: DOLLAR TREE STORES, INC.
Mailing Care of: Julie Giblin
Mailing Address 1: 500 Volvo Parkway
Mailing Address 2:
Mailing City: Chesapeake
Mailing State: VA
Mailing Zip: 23320

Detail(s)

Permit ID: PT0038011
Status: FEE EXEMPT
Program Element Code: 4200
Permit Desc: HAZMAT HANDLER GENERAL ACT.(NB)
To: 5/31/2018

Permit ID: PT0034802
Status: ACTIVE
Program Element Code: 4451
Permit Desc: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
To: 5/31/2020

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
18	2 of 2	SE	0.24 / 1,249.48	2,879.30 / 99	FAMILY DOLLAR INC #10458 11545 BARTLETT AVE ADELANTO CA 92301	RCRA NON GEN

EPA Handler ID: CAL000400700
Gen Status Universe: No Report
Contact Name: CONNIE KELCH
Contact Address: 500 VOLVO PARKWAY , , CHESAPEAKE , VA, 23320 ,
Contact Phone No and Ext: 757-321-5405
Contact Email: CKELCH@DOLLARTREE.COM
Contact Country:
County Name: SAN BERNARDINO
EPA Region: 09
Land Type:
Receive Date: 20140924

Violation/Evaluation Summary

Note: NO RECORDS: As of June 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No

Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20140924
Handler Name:	FAMILY DOLLAR INC #10458
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	500 VOLVO PARKWAY
Name:	CONNIE KELCH	**Street 2:**	
Date Became Current:		**City:**	CHESAPEAKE
Date Ended Current:		**State:**	VA
Phone:	757-321-5405	**Country:**	
Source Type:	Implementer	**Zip Code:**	23320

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	500 VOLVO PARKWAY
Name:	FAMILY DOLLAR INC	**Street 2:**	
Date Became Current:		**City:**	CHESAPEAKE
Date Ended Current:		**State:**	VA
Phone:	757-321-5000	**Country:**	
Source Type:	Implementer	**Zip Code:**	23320-0000

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
19	1 of 1	SE	0.24 / 1,264.93	2,879.03 / 99	DUNES LIQUOR & GAS 11500 BARTLETT STE A ADELANTO CA 92301	SANBERN CUPA

Facility ID:	FA0002802
Owner Info:	MUSTAFA ABDELKARIM
Mailing Care of:	ACCOUNTS PAYABLE DEPT
Mailing Address 1:	11500 BARTLETT AVE
Mailing Address 2:	
Mailing City:	ADELANTO
Mailing State:	CA
Mailing Zip:	92301

Detail(s)

Permit ID:	PT0024550
Status:	ACTIVE
Program Element Code:	4106
Permit Desc:	COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
To:	10/31/2019

Permit ID:	PT0029519
Status:	ACTIVE
Program Element Code:	4460

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Permit Desc: WASTE INCIDENTAL UST OPERATION ONLY -PER YEAR
To: 10/31/2019

Permit ID: PT0002041
Status: ACTIVE
Program Element Code: 4260
Permit Desc: HAZMAT HANDLER, UST ONLY - PER YEAR
To: 10/31/2019

Permit ID: PT0012237
Status: INACTIVE
Program Element Code: 4104
Permit Desc: REGULAR UST ANNUAL INSPECTION (PER TANK)
To: 10/31/2011

Permit ID: PT0012238
Status: INACTIVE
Program Element Code: 4104
Permit Desc: REGULAR UST ANNUAL INSPECTION (PER TANK)
To: 10/31/2011

Permit ID: PT0012239
Status: INACTIVE
Program Element Code: 4104
Permit Desc: REGULAR UST ANNUAL INSPECTION (PER TANK)
To: 10/31/2011

Permit ID: PT0024549
Status: ACTIVE
Program Element Code: 4106
Permit Desc: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
To: 10/31/2019

Permit ID: PT0024548
Status: ACTIVE
Program Element Code: 4106
Permit Desc: COMPLEX ANNUAL INSP VPH/ > 8 DISP (PER TANK)
To: 10/31/2019

20	1 of 1	SE	0.28 / 1,494.86	2,879.75 / 100	ACA AUTO REPAIR 11660 BARTLETT AVE ADELANTO CA 92301	DELISTED HAZ

Siteid: 2730
Latitude: 34.579559
Longitude: -117.410378
Original Source: CHAZ
Record Date: 22-MAR-2018

21	1 of 1	SE	0.28 / 1,498.07	2,900.29 / 120	CIRCLE K#8644 11724 AIR BASE RD ADELANTO CA 92301	LUST

Global ID: T0607100928
Status: COMPLETED - CASE CLOSED
Status Date: 2001-07-06 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: SAN BERNARDINO
Latitude: 34.572334
Longitude: -117.408801

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No: 6B3600913T
Local Case No: 98071
Begin Date: 1998-07-01 00:00:00
Potential COC: Gasoline
How Discovered: Other Means
Stop Method:

Lead Agency: SAN BERNARDINO COUNTY
Local Agency: SAN BERNARDINO COUNTY
CUF Case: NO
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
DWR GW Subbasin Name: Upper Mojave River Valley (6-042)
Disadvantaged Community:
Site History:
Stop Description:
Case Worker: JC
File Location: Local Agency

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2002-04-03 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 1998-10-15 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1998-09-02 00:00:00
Action: Leak Stopped

Action Type: Other
Date : 1998-07-10 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1998-07-01 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: JACKSON CRUTSINGER
City: SAN BERNARDINO
Organization Name: SAN BERNARDINO COUNTY
Address: 620 SOUTH E STREET
Email: jcrutsinger@sbcfire.org
Phone No:

Status History

Status: Completed - Case Closed
Status Date: 2001-07-06 00:00:00

Status: Open - Site Assessment
Status Date: 1998-10-15 00:00:00

Status: Open - Site Assessment
Status Date: 1998-07-10 00:00:00

Status: Open - Case Begin Date
Status Date: 1998-07-01 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile (as of Jan 18, 2019)

Site Facility Name: CIRCLE K#8644
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
Address: 11724 AIR BASE RD
City: ADELANTO
Zip: 92301
County: SAN BERNARDINO
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:

File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, FRSH
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0607100928
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 7/6/2001
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0607100928&tabname=regulatoryhistory
Potential Media of Concern: SOIL
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Mojave River Valley (6-042)
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SAN BERNARDINO COUNTY (LEAD) - CASE #: 98071
CASEWORKER: JACKSON CRUTSINGER
LAHONTAN RWQCB (REGION 6V) - CASE #: 6B3600913T
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Status History (as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 7/6/2001

Status: Open - Site Assessment
Date : 10/15/1998

Status: Open - Site Assessment
Date : 7/10/1998

Status: Open - Case Begin Date
Date : 7/1/1998

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities (as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 4/3/2002
Received Issue Date: 4/3/2002
Action: Staff Letter
Doc Link:
Title Description Comments:

AEO-signed mass mailed letter reminding RP of EDF submittal requirement per AB 2886

Action Type: Enforcement/Orders
Action Date: 10/15/1998
Received Issue Date: 10/15/1998
Action: * Historical Enforcement
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 9/2/1998
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 7/10/1998
Received Issue Date:
Action: Leak Reported
Doc Link:

Title Description Comments:

Action Type: Leak Action
Action Date: 7/1/1998
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

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22 | ***1 of 1*** | ***SE*** | ***0.30 / 1,593.80*** | ***2,879.02 / 99*** | ***FORMER ADELANTO SHELL 11660 BARTLETT ROAD ADELANTO CA 92301*** | ***LUST***

Global ID: T0607100954
Status: OPEN - ELIGIBLE FOR CLOSURE
Status Date: 2018-10-30 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: SAN BERNARDINO
Latitude: 34.5795619218815
Longitude: -117.410362958908

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No: 6B3600959T
Local Case No: 99101
Begin Date: 1998-07-10 00:00:00
Lead Agency: LAHONTAN RWQCB (REGION 6T)
Local Agency: SAN BERNARDINO COUNTY
CUF Case: YES
Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
DWR GW Subbasin Name: Upper Mojave River Valley (6-042)
Disadvantaged Community: Severely Disadvantaged Community
Site History:
Potential COC: Gasoline, MTBE / TBA / Other Fuel Oxygenates, * * TERT-BUTYL ALCOHOL (TBA), * TERT-BUTYL ALCOHOL (TBA)
How Discovered: Other Means
Stop Method:
Stop Description:
Case Worker: AC
File Location: Local Agency

The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the Lahontan Regional Water Quality Control Board. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the Lahontan Regional Water Quality Control Board should be consulted.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2019-03-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2019-02-07 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2018-10-30 00:00:00
Action: Notification - Public Notice of Case Closure

Action Type: ENFORCEMENT
Date : 2018-08-14 00:00:00
Action: Email Correspondence

Action Type: RESPONSE
Date : 2018-08-01 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: ENFORCEMENT
Date : 2018-07-11 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2018-06-22 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2018-05-31 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: RESPONSE
Date : 2018-03-05 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2018-02-08 00:00:00
Action: Remedial Progress Report

Action Type: ENFORCEMENT
Date : 2017-12-21 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2017-12-05 00:00:00
Action: Email Correspondence

Action Type: RESPONSE
Date : 2017-11-01 00:00:00
Action: Conceptual Site Model

Action Type: RESPONSE
Date : 2017-11-01 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: ENFORCEMENT
Date : 2017-08-08 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2017-04-18 00:00:00
Action: Verbal Communication

Action Type: ENFORCEMENT
Date : 2017-01-06 00:00:00
Action: Meeting

Action Type: RESPONSE
Date : 2016-12-30 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: ENFORCEMENT
Date : 2016-12-01 00:00:00
Action: Email Correspondence

Action Type: RESPONSE
Date : 2016-10-24 00:00:00
Action: Soil Vapor Intrusion Investigation Report

Action Type: RESPONSE
Date : 2016-10-14 00:00:00
Action: Email Correspondence

Action Type: REMEDIATION
Date : 2016-08-19 00:00:00
Action: Soil Vapor Extraction (SVE)

Action Type: ENFORCEMENT
Date : 2016-08-12 00:00:00
Action: Email Correspondence

Action Type: RESPONSE
Date : 2016-08-08 00:00:00
Action: Other Report / Document - Regulator Responded

Action Type: RESPONSE
Date : 2016-06-20 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2016-06-20 00:00:00
Action: Remedial Progress Report

Action Type: ENFORCEMENT
Date : 2016-06-14 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 2016-06-07 00:00:00
Action: Meeting

Action Type: ENFORCEMENT
Date : 2016-05-25 00:00:00
Action: Verbal Communication

Action Type: RESPONSE
Date : 2016-05-24 00:00:00
Action: Verbal Communication

Action Type: RESPONSE
Date : 2016-04-29 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2016-02-16 00:00:00
Action: Verbal Communication

Action Type: RESPONSE
Date : 2015-11-15 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2015-11-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2015-06-10 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2015-06-08 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2015-04-24 00:00:00
Action: Email Correspondence - Regulator Responded

Action Type: RESPONSE
Date : 2015-02-15 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2015-01-22 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE

Date : 2015-01-16 00:00:00
Action: Other Workplan - Regulator Responded

Action Type: RESPONSE
Date : 2014-11-15 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2014-11-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: ENFORCEMENT
Date : 2014-10-30 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2014-09-24 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2014-09-04 00:00:00
Action: Verbal Communication

Action Type: RESPONSE
Date : 2014-09-04 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2014-08-20 00:00:00
Action: Verbal Communication

Action Type: ENFORCEMENT
Date : 2014-06-20 00:00:00
Action: Meeting

Action Type: RESPONSE
Date : 2014-06-16 00:00:00
Action: CAP/RAP - Other Report - Regulator Responded

Action Type: RESPONSE
Date : 2014-05-30 00:00:00
Action: Pilot Study/ Treatability Report

Action Type: RESPONSE
Date : 2014-04-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: ENFORCEMENT
Date : 2014-02-11 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2014-02-03 00:00:00
Action: Remedial Progress Report - Regulator Responded

Action Type: REMEDIATION
Date : 2014-02-01 00:00:00
Action: Soil Vapor Extraction (SVE)

Action Type: RESPONSE
Date : 2014-01-22 00:00:00
Action: Other Report / Document

Action Type: RESPONSE
Date : 2014-01-03 00:00:00
Action: Pilot Study / Treatability Workplan - Regulator Responded

Action Type: ENFORCEMENT
Date : 2013-12-02 00:00:00

Action: Verbal Enforcement

Action Type: RESPONSE
Date : 2013-09-19 00:00:00
Action: Correspondence

Action Type: RESPONSE
Date : 2013-08-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2013-08-15 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2013-01-31 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2012-10-31 00:00:00
Action: Remedial Progress Report

Action Type: ENFORCEMENT
Date : 2012-10-19 00:00:00
Action: Site Visit / Inspection / Sampling

Action Type: ENFORCEMENT
Date : 2012-09-25 00:00:00
Action: Verbal Enforcement

Action Type: RESPONSE
Date : 2012-08-31 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2012-03-13 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2011-12-31 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2011-08-31 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2011-07-30 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: RESPONSE
Date : 2011-06-16 00:00:00
Action: Well Installation Report

Action Type: RESPONSE
Date : 2011-05-30 00:00:00
Action: Remedial Progress Report

Action Type: RESPONSE
Date : 2011-04-26 00:00:00
Action: Well Installation Workplan

Action Type: ENFORCEMENT
Date : 2011-04-26 00:00:00
Action: Staff Letter

Action Type: REMEDIATION
Date : 2011-04-25 00:00:00
Action: Soil Vapor Extraction (SVE)

Action Type: ENFORCEMENT
Date : 2011-03-29 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2011-03-14 00:00:00
Action: Pilot Study/ Treatability Report - Regulator Responded

Action Type: ENFORCEMENT
Date : 2011-02-23 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2011-02-15 00:00:00
Action: Monitoring Report - Semi-Annually

Action Type: ENFORCEMENT
Date : 2011-02-09 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2011-02-08 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2011-01-13 00:00:00
Action: Verbal Enforcement

Action Type: RESPONSE
Date : 2010-11-01 00:00:00
Action: Verbal Communication

Action Type: ENFORCEMENT
Date : 2010-10-20 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2010-10-18 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2010-10-04 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2010-09-27 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2010-09-23 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2010-08-19 00:00:00
Action: Verbal Enforcement

Action Type: ENFORCEMENT
Date : 2009-09-18 00:00:00
Action: Referral to Regional Board

Action Type: ENFORCEMENT
Date : 2009-07-27 00:00:00
Action: Letter - Notice

Action Type: ENFORCEMENT
Date : 2008-02-15 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: RESPONSE
Date : 2007-10-15 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2006-04-15 00:00:00
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 2005-11-01 00:00:00
Action: Monitoring Report - Quarterly

Action Type: ENFORCEMENT
Date : 2005-06-28 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-03-21 00:00:00
Action: Other Workplan

Action Type: RESPONSE
Date : 2002-12-31 00:00:00
Action: CAP/RAP - Other Report

Action Type: RESPONSE
Date : 2002-12-31 00:00:00
Action: Other Report / Document

Action Type: ENFORCEMENT
Date : 2002-04-03 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT
Date : 1999-08-18 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1999-08-09 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1998-07-10 00:00:00
Action: Leak Stopped

Action Type: Other
Date : 1998-07-10 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: JACKSON CRUTSINGER
City: SAN BERNARDINO
Organization Name: SAN BERNARDINO COUNTY
Address: 620 SOUTH E STREET
Email: jcrutsinger@sbcfire.org
Phone No:

Contact Type: Regional Board Caseworker
Contact Name: ABBY CAZIER
City: SOUTH LAKE TAHOE
Organization Name: LAHONTAN RWQCB (REGION 6T)
Address: 2501 Lake Tahoe Boulevard
Email: abby.cazier@waterboards.ca.gov
Phone No: 5305425429

Status History

Status: Open - Eligible for Closure
Status Date: 2018-10-30 00:00:00

Status: Open - Verification Monitoring
Status Date: 2018-06-26 00:00:00

Status: Open - Remediation
Status Date: 2014-01-22 00:00:00

Status: Open - Site Assessment
Status Date: 1999-08-18 00:00:00

Status: Open - Case Begin Date
Status Date: 1998-07-10 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile (as of Jan 18, 2019)

Site Facility Name: FORMER ADELANTO SHELL
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: OPEN - ELIGIBLE FOR CLOSURE
Project Status:
Potential COC: GASOLINE, MTBE / TBA / OTHER FUEL OXYGENATES, TERT-BUTYL ALCOHOL (TBA)
WDR Place Type:
WDR File:
WDR Order:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, FRSH
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0607100954
Cleanup Status Detail: OPEN - ELIGIBLE FOR CLOSURE AS OF 10/30/2018
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0607100954&tabname=regulatoryhistory
Potential Media of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Mojave River Valley (6-042)
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: LAHONTAN RWQCB (REGION 6T) (LEAD) - CASE #: 6B3600959T
CASEWORKER: ABBY CAZIER
LAHONTAN RWQCB (REGION 6V) - CASE #: 6B3600959T
SAN BERNARDINO COUNTY - CASE #: 99101
CASEWORKER: JACKSON CRUTSINGER

Address: 11660 BARTLETT ROAD
City: ADELANTO
Zip: 92301
County: SAN BERNARDINO
CUF Claim: 14806
CUF Priority Assig: B
CUF Amount Paid: $1,347,763

Site History:

The case was opened following an unauthorized release from an underground storage tank system at the subject site. Corrective action is underway as directed by the Lahontan Regional Water Quality Control Board. Corrective action may consist of preliminary site investigation, planning and implementation of remedial action, verification monitoring, or a combination thereof. A summary of the site history is available by clicking on either the "Cleanup Status History", "Regulatory Activities" or the "Site Maps/Documents" tab. For a complete site history the case file at the Lahontan Regional Water Quality Control Board should be consulted.

LUST Cleanup Sites from GeoTracker Search - Cleanup Status History (as of Jan 18, 2019)

Status: Open - Eligible for Closure
Date : 10/30/2018

Status: Open - Verification Monitoring
Date : 6/26/2018

Status: Open - Remediation
Date : 1/22/2014

Status: Open - Site Assessment
Date : 8/18/1999

Status: Open - Case Begin Date
Date : 7/10/1998

LUST Cleanup Sites from GeoTracker Search - Cleanup Action (as of Jan 18, 2019)

Action Type: DUAL PHASE EXTRACTION ***Begin Date:***
Phase: ***End Date:***
Contaminant Mass Removed:
Description: Pump and Treat and SVE system shut down March 1, 2016.

Action Type: SOIL VAPOR EXTRACTION (SVE) ***Begin Date:***
Phase: ***End Date:***
Contaminant Mass Removed:
Description: TRG continued efficient operation of the soil vapor extraction (SVE) system at the Site during this reporting period. The system was switched from thermal-catalytic mode to the more economical carbon filtration mode in October 2014.

Action Type: PUMP & TREAT (P&T) GROUNDWATER ***Begin Date:***
Phase: Water ***End Date:*** 3/1/2016
Contaminant Mass Removed: 1,041,909 Gallons
Description:

Action Type: SOIL VAPOR EXTRACTION (SVE) ***Begin Date:***
Phase: Soil Vapor ***End Date:*** 3/1/2016
Contaminant Mass Removed: 11,057 Pounds
Description:

Action Type: SOIL VAPOR EXTRACTION (SVE) ***Begin Date:*** 8/19/2016
Phase: Soil Vapor ***End Date:***
Contaminant Mass Removed:
Description: SVE restarted on August 19, 2016. Carbon change-out of two 1,000lb vapor phase carbon vessels was performed on August 29, 2016. An additional change-out was of one 1,000lb vapor phase carbon vessel was performed on October 18, 2016.

Action Type: SOIL VAPOR EXTRACTION (SVE) ***Begin Date:*** 2/1/2014
Phase: Soil Vapor ***End Date:*** 10/8/2014
Contaminant Mass Removed: 2,037 Pounds
Description:

Action Type: SOIL VAPOR EXTRACTION (SVE) ***Begin Date:*** 4/25/2011
Phase: Other (See Description) ***End Date:*** 8/12/2011
Contaminant Mass Removed: 1,920 Pounds
Description:

Action Type: SOIL VAPOR EXTRACTION (SVE) ***Begin Date:*** 4/25/2011
Phase: Soil ***End Date:*** 5/3/2011
Contaminant Mass Removed: 150 Pounds
Description: Start up date for SVE system April 25, 2011.

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities (as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 2/7/2019
Received Issue Date: 2/7/2019
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6384868&temptable=ENFORCEMENT
Title Description Comments:

Request to Destroy Monitoring Wells

Action Type: Notices
Action Date: 10/30/2018
Received Issue Date: 10/30/2018
Action: Notification - Public Notice of Case Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6373959&temptable=ENFORCEMENT
Title Description Comments:

Case Closure Consideration Public Notice

Action Type: Other Regulatory Actions
Action Date: 8/14/2018
Received Issue Date: 8/14/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6366758&temptable=ENFORCEMENT
Title Description Comments:

Email follow-up regarding missing monitoring well MW-5

Action Type: Response Requested - Other
Action Date: 8/1/2018
Received Issue Date: 6/26/2018
Action: Request for Closure - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5950858
Title Description Comments:

Semi-annual groundwater monitoring report documenting the results of the first and second Quarter 2018 groundwater monitoring events. Should include updated petroleum concentration trend graphs submitted with the LTCP Evaluation to include the latest groundwater monitoring results and measured depth to water (or groundwater elevation) for MW-1, MW-2, MW-4, MW-7, MW-13.

Action Type: Other Regulatory Actions
Action Date: 7/11/2018
Received Issue Date: 7/11/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6363704&temptable=ENFORCEMENT
Title Description Comments:

Request for mailing list for public comment period regarding closure, due 8/13/2018

Action Type: Response Requested - Reports
Action Date: 6/22/2018
Received Issue Date: 6/22/2018
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5968088
Title Description Comments:

14806 3rd RSR Addl Work June 2018

Action Type: Response Requested - Reports
Action Date: 5/31/2018
Received Issue Date: 5/31/2018
Action: Clean Up Fund - 5-Year Review Summary
Doc Link:
Title Description Comments:

14806 3rd RSR Rationale for Additional Work June 2018

Action Type: Response Requested - Reports
Action Date: 3/5/2018
Received Issue Date: 3/5/2018
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5958565
Title Description Comments:

Limited February 2018 Groundwater Monitoring Event

Action Type: Response Requested - Reports
Action Date: 2/8/2018
Received Issue Date: 2/8/2018
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5956577
Title Description Comments:

REMEDIATION PROGRESS REPORT SEPTEMBER 2017 TO JANUARY 2018

Action Type: Other Regulatory Actions
Action Date: 12/21/2017
Received Issue Date: 12/21/2017
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6343974&temptable=ENFORCEMENT
Title Description Comments:

Request for Rebound Testing

Action Type: Other Regulatory Actions
Action Date: 12/5/2017
Received Issue Date: 12/5/2017
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6342670&temptable=ENFORCEMENT
Title Description Comments:

Email Recapping JET Phone Call: There has been no rebound testing, requesting two quarters to assess MTBE concentrations

Action Type: Response Requested - Other
Action Date: 11/1/2017
Received Issue Date: 11/1/2017
Action: Request for Closure - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5948291
Title Description Comments:

Low Threat Closure Evaluation and Request for Closure

Action Type: Response Requested - Other
Action Date: 11/1/2017
Received Issue Date: 11/1/2017
Action: Conceptual Site Model
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5948292
Title Description Comments:

Conceptual Site Model

Action Type: Other Regulatory Actions
Action Date: 8/8/2017
Received Issue Date: 8/8/2017
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6335257&temptable=ENFORCEMENT
Title Description Comments:

Email Project Update- Request to prepare current stand-alone Req for Closure with LTCP eval and stand-alone CSM with Sensitive Receptor Survey

Action Type: Other Regulatory Actions
Action Date: 4/18/2017
Received Issue Date: 4/18/2017
Action: Verbal Communication
Doc Link:
Title Description Comments:

Tabitha Ester with the Reynolds Group (714-931-2308) left VM RE:Update on remediation system. Systems have been online since mid-January and have been running February and March. Will shut off for two weeks then conduct gw monitoring.

Action Type: Other Regulatory Actions
Action Date: 1/6/2017
Received Issue Date: 1/6/2017

Action: Meeting
Doc Link:
Title Description Comments:

JET meeting to discuss bioreactor and SVE system.

Action Type: Response Requested - Reports
Action Date: 12/30/2016
Received Issue Date: 12/30/2016
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5908650
Title Description Comments:

Semi-Annual GWMR- second half - 2016 (November). MTBE is COC. MW-1 reported highest MTBE concentrations, 696.4 µg/L. Consultant requests a meeting with JET to disucss groundwater conditions based on the recent groundwater data and the need to continue remediation at the site. MW-13 has showed an increase in TPHg and MTBE since October 2015.

Action Type: Other Regulatory Actions
Action Date: 12/1/2016
Received Issue Date: 12/1/2016
Action: Email Correspondence
Doc Link:
Title Description Comments:

Tabitha Ester responded: Sorry for the delayed response - our email server was problematic last week. We have not committed to restarting the pump and treat system because we are still reviving the biofilter. We have inoculated it twice with the same strain of bugs we were using previously, but total treatment of the TBA has yet to happen. We are working with our vendor to bring the biofilter on line and expect to be able to discharge under the permit conditions soon. , Email sent to Tabitha Esther (esther@reynolds-group.com) RE: Update on reviving the biofilter system?

Action Type: Response Requested - Reports
Action Date: 10/24/2016
Received Issue Date: 10/24/2016
Action: Soil Vapor Intrusion Investigation Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5903741
Title Description Comments:

Soil Gas Sampling Report. Five foot samples collected were ND for benzene and ethylbenzene. Based on the sampling results The Reynolds Group states that the site meets Scenario 4 with no bioattenuation zone.

Action Type: Response Requested - Other
Action Date: 10/14/2016
Received Issue Date: 10/14/2016
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5903286
Title Description Comments:

Email update from Tabitha Esther with the Reynolds Group

Action Type: Other Regulatory Actions
Action Date: 8/12/2016
Received Issue Date: 8/12/2016
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6294980&temptable=ENFORCEMENT
Title Description Comments:

Site map with 6 soil gas locations to be collected at 5 and 10 feet bgs. Field work is scheduled for August 29, 2016.

Action Type: Response Requested - Other
Action Date: 8/8/2016
Received Issue Date: 8/8/2016
Action: Other Report / Document - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5898029
Title Description Comments:

Notice of Intent package

Action Type: Response Requested - Reports
Action Date: 6/20/2016
Received Issue Date: 6/20/2016
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5892596
Title Description Comments:

Remediation Systems Status Report (October 12, 2015 to May 6, 2016)

Action Type: Response Requested - Reports
Action Date: 6/20/2016
Received Issue Date: 6/20/2016
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5893211
Title Description Comments:

First half 2016

Action Type: Other Regulatory Actions
Action Date: 6/14/2016
Received Issue Date: 6/14/2016
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6287670&temptable=ENFORCEMENT
Title Description Comments:

Notice to restart remediation system

Action Type: Other Regulatory Actions
Action Date: 6/7/2016
Received Issue Date: 6/7/2016
Action: Meeting
Doc Link:
Title Description Comments:

ECAP teleconference. Attendees: ECAP staff, Ben Heningburg and Kyle Cockerham; Water Board staff, Tammy Lundquist; Consultant, The Reynolds Group, Ed Reynolds, Rosanne Fisher, and Charles Lye.

Action Type: Other Regulatory Actions
Action Date: 5/25/2016
Received Issue Date: 5/25/2016
Action: Verbal Communication
Doc Link:
Title Description Comments:

Teleconference with Rosanne Fischer (714-224-2950) fischer@reynolds-group.com) and Ed Reynolds. Discussed ECAP process and set up of next meeting date. Rosanne said she would get back to me in a few days with some dates/times.

Action Type: Response Requested - Other
Action Date: 5/24/2016
Received Issue Date: 5/24/2016
Action: Verbal Communication
Doc Link:
Title Description Comments:

VM left with Rosanne Fischer (714-224-2950) fischer@reynolds-group.com) RE: Discussion of ECAP program and meeting with her RP, Water Board and ECAP staff within the next 10 days to finalize next steps for site to meet LTCP groundwater criteria pathway.

Action Type: Response Requested - Other
Action Date: 4/29/2016
Received Issue Date: 4/29/2016
Action: Email Correspondence

Doc Link:
Title Description Comments:

Email from Tabitha Ester RE: We will be doing the semi-annual groundwater sampling next Thursday, 5/5, at the Former Adelanto Shell site. Both SVE and GW P&T systems remain off. We received the invite to participate in the CUF's ECAP program and accepted the invite. Haven't heard back on the next steps with that though. FYI - I will be out for maternity leave starting May 16th. You can reach Rosanne Fischer in our office at 714-224-2950 or by email to fischer@reynolds-group.com to discuss the project while I am out. I anticipate returning early September.

Action Type: Other Regulatory Actions
Action Date: 2/16/2016
Received Issue Date: 2/16/2016
Action: Verbal Communication
Doc Link:
Title Description Comments:

Tabitha returned my call and we discussed what information she had., call to Tabitha Ester (714-931-2308) to get update on site activities.

Action Type: Response Requested - Reports
Action Date: 11/15/2015
Received Issue Date: 11/19/2015
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5868707
Title Description Comments:

Remediation System Status Report - May 8 to October 16, 2015. SVE operation at the Site has removed approximately 10,824.0 lbs. of gasoline from the subsurface vadose soils. SVE is currently operating in conjunction with GW P&T to remove gasoline from soil horizons exposed by groundwater drawdown from GW P&T operations. In the 4th Q 2015, TRG will close vapor extraction well VEW5D due continued low vapor concentrations. Vapor sampling will be conducted at all vapor extraction wells to determine if removal of gasoline from the subsurface vadose zones has reached asymptotic conditions. Approximately 692,384 gallons of impacted groundwater has been removed at the site by GW P&T operation. During the October 2015 groundwater monitoring event, no BTEX was reported in any wells. Concentrations of gasoline and gasoline constituents have reduced in off-site well M7, indicating that GW P&T operation has been effective at "drawing-in" the off-site hydrocarbon plume. During the October 2015 groundwater monitoring event, MTBE concentration greater than 1,000 ug/L was reported in monitoring well MW3, located in the northeast corner of the Site. TRG will initiate pumping at well MW3 in the 4th Quarter 2015, and will monitor concentrations of gasoline and gasoline constituents at wells MW1, MW3, and MW4 on a monthly basis by collecting grab samples. If concentrations of MTBE reduce to meet criteria for groundwater closure described in the Policy, TRG will shut-down the remediation systems at the Site to enter a post-remediation monitoring period. TRG will initiate discussions with the LRWQCB regarding pathway to closure activities (SVE rebound testing, confirmation borings) at this time.

Action Type: Response Requested - Reports
Action Date: 11/15/2015
Received Issue Date: 11/15/2015
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5868714
Title Description Comments:

Semi-Annual Groundwater Monitoring Report - October 2015

Action Type: Response Requested - Reports
Action Date: 6/10/2015
Received Issue Date: 6/5/2015
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5844070
Title Description Comments:

Semi Annual Groundwater Monitoring Report - April/May 2015. TRG: ACTIVITY PROPOSED FOR NEXT REPORTING PERIOD: 1. Continue SVE/GW P&T at the Site to remediation gasoline impacted soils and groundwater and submit Quarterly Remediation Status Reports to the LRWQCB. 2. Perform semi-annual groundwater monitoring at the Site in October 2015 and submit a Semi-Annual Groundwater Monitoring Report to the LRWQCB.

Action Type: Response Requested - Reports
Action Date: 6/8/2015
Received Issue Date: 6/8/2015
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5844256
Title Description Comments:

Remediation Status Report and Report on Infiltration Trench Pilot Testing (Jan 1 to May 13, 2015). TRG initiated GW P&T on February 26, 2015. It was successful in drawing down groundwater and exposing the hydrocarbon afftected soils.

Action Type: Response Requested - Other
Action Date: 4/24/2015
Received Issue Date: 4/24/2015
Action: Email Correspondence - Regulator Responded
Doc Link:
Title Description Comments:

Email received from Tabitha Esther (esther@reynolds-groop.com) Emailing to give you notification that we will be doing the semi-annual groundwater monitoring event at the Former Adelanto Shell next Tuesday, April 24, 2015. We started up the groundwater treatment system and it has been running for approximately 6 weeks. We wanted to let the system run for about a month and then sample to see what kind of progress has been made. Info on the infiltration gallery construction and testing will be included in the groundwater and system ops reports that will include next Tuesday's data. The infiltration gallery has been working great, it has a pretty significant capacity. We haven't had any problems with the amount we are pumping and treating. Feel free to reach me at 714-931-2308 with any questions.

Action Type: Response Requested - Reports
Action Date: 2/15/2015
Received Issue Date: 1/22/2015
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5828613
Title Description Comments:

Remediation Status Report Fourth Quarter 2015

Action Type: Response Requested - Reports
Action Date: 1/22/2015
Received Issue Date: 1/22/2015
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5827151
Title Description Comments:

Fourth Quarter 2014 Remediation Status Report

Action Type: Response Requested - Workplans
Action Date: 1/16/2015
Received Issue Date: 1/16/2015
Action: Other Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5826749
Title Description Comments:

Work Plan for Infiltration Trench Pilot Testing - Email sent to Tabitha Ester of Edwards Reynolds Group (ester@reynolds-group.com) I have reviewed the Workplan for Infiltration Trench Testing for the Former Adelanto Shell, 11660 Bartlett Avenue, Adelanto, San Bernardino County, received by email on January 14, 2015. I accept the tasks as proposed by The Reynolds Group. I understand that the workplan activities will begin the week of January 19, 2015.

Action Type: Response Requested - Reports
Action Date: 11/15/2014
Received Issue Date: 11/7/2014
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5821578
Title Description Comments:

Remediation Status Report, Feb-Sept 2014. MW1 and MW7 reported substantial decreases in MTBE. MW4 reported an increase in MTBE

Action Type: Response Requested - Reports
Action Date: 11/15/2014
Received Issue Date: 11/7/2014
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5821580
Title Description Comments:

Semi-Annual Groundwater Monitoring Report, September 2014. Down gradient MW13 reported MTBE @ 2.4 µg/L. This well has reported MTBE since July 11, 2013, evidence that plume is not contained.

Action Type: Other Regulatory Actions
Action Date: 10/30/2014
Received Issue Date: 10/30/2014
Action: Email Correspondence
Doc Link:
Title Description Comments:

Email sent to Tabita Esther (esther@reynolds-group.com) RE: update on how to deal with the treated ground water. Discharge into the City's sewer system is too expensive.

Action Type: Other Regulatory Actions
Action Date: 9/24/2014
Received Issue Date: 9/24/2014
Action: Email Correspondence
Doc Link:
Title Description Comments:

TG email acceptance of RAP Addendum; see June 16, 2014 RAP Addendum thread for email document

Action Type: Other Regulatory Actions
Action Date: 9/4/2014
Received Issue Date: 9/4/2014
Action: Verbal Communication
Doc Link:
Title Description Comments:

Spoke with Tabitha Ester of Reynolds Group (714-931-2308). She said she is still waiting to hear back from the city of Adelanto. She will give a call to them today and let me know what she finds out.

Action Type: Response Requested - Other
Action Date: 9/4/2014
Received Issue Date: 9/4/2014
Action: Email Correspondence
Doc Link:
Title Description Comments:

Consultant's email to Mr. Thornton with City of Adelanto: Dear Mr. Thornton, Dave Kachelski gave me your contact information to keep in touch regarding the review of our proposed discharge plan at 11660 Bartlett Avenue in Adelanto. We are the environmental consultant for this site and submitted plans to Mr. Kachelski in August 2014. Mr. Kachelski informed me that you are currently reviewing this plan. Thank you for your attention to our proposal. Can you please let us know the status of your review? I am happy to offer any additional information you may need to complete your assessment of our proposal. I have cc'd the Lahontan Regional Water Qualtiy Control Board representative for this case, Ms. Tammy Lundquist. She will approve our work when and if we get the go-ahead from your department. She concurs with our proposal. Thank you in advance for your time. Feel free to reach me at 714-931-2308 with any comments or questions. Response receved: Tabitha, We have completed our review of your proposed project with respect to the impact on our sewer system. These are our findings with respect to fees that the City will charge in order to provide service. This calculation is based on a deposition approximately 3,200 GPD into the system. The current EDU generation rate that we have been using has been 196 GPD/EDU so this project would be generating a total of 16.33 EDU's which at a connection fee of $3,050/EDU the applicant would need to submit $49,806.50 in connection fees and the monthly service fee for Commercial/Industrial - $61.06 per EDU, which would be a total of $997.11/ month for the connection. Summary: $49,806.50 in one time connection fees -Collected with the building permits. $997.11 in monthly service fees -Recommend having account established prior to issuance of CofO from building. If you have any questions regarding this feel free to contact my office. Thanks, Tom Thomas W. Thornton, P.E. City Engineer Director of Public Works 11600 Air Expressway Adelanto, CA 92301 Phone: (760) 246-2300 ext 3025

Action Type: Other Regulatory Actions
Action Date: 8/20/2014
Received Issue Date: 8/20/2014
Action: Verbal Communication
Doc Link:
Title Description Comments:

Spoke with Tabitha Ester of Reynolds Group (714-931-2308). She said she is still waiting to hear back from Dave. He is apparently presenting the proposal to his management. Tabitha said she will get back to me soon.

Action Type: Other Regulatory Actions
Action Date: 6/20/2014
Received Issue Date: 6/20/2014
Action: Meeting
Doc Link:

Title Description Comments:

Conference call with Tabitha Ester (714-931-2308) and Al Fuan, engineer and senior project manager with Reynolds Group. Dave Kathelski (714-887-9794)(dkachelski@percwater.com)with the City of Adelanto, Area Operations Manager, Adelanto WWTP, PERC Water Corporation, 1901 Jonathan St., Adelanto, CA 92301. Discussed the testing of the water water to make sure that no break through is occurring. Al said that they could add additional carbon canisters and collect water samples weekly. Dave said that he is still uncomfortable with this and he would discuss with other agencies and get back to us. Tabitha will submit to Dave a list of water agencies she has dealt with in LA and Orange County's to Dave.

Action Type: Response Requested - Reports
Action Date: 6/16/2014
Received Issue Date: 6/16/2014
Action: CAP/RAP - Other Report - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5807466
Title Description Comments:

RAP addendum for groundwater remediation - Left msg with Tabitha Ester of The Reynolds Group (714-931-2308) RE: changes to work plan to allow treated groundwater to be discharged to sewer. This will not be acceptable to the local water management agancy. Will look to see if treated water can be used offsite or create an infilitration gallery to discharge into., Waiting for consultant to get permission from Dave Kachelski of the Adelanto WWTP (760-246-1149) to allow the discharge of treated water into their sewer system. Will approve modified work plan once permission is granted., Email to Tabitha Esther accepting RAP Addendum based on her confirmation they will dispose of the treated groundwater into the sewer system

Action Type: Response Requested - Reports
Action Date: 5/30/2014
Received Issue Date: 5/21/2014
Action: Pilot Study/ Treatability Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5806128
Title Description Comments:

Groundwater Remediation Pilot Test Report

Action Type: Response Requested - Reports
Action Date: 4/15/2014
Received Issue Date: 4/7/2014
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5801658
Title Description Comments:

Semi-Annual Groundwater Monitoring Report - February 2014

Action Type: Other Regulatory Actions
Action Date: 2/11/2014
Received Issue Date: 2/11/2014
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Left msg with Dayne Kendrick of CUFund (916.341.5832) to find out what the status is on this claim. Need funding to continue SVE operations at the site. SVE system was shut down on Sept. 20, 2013. Dayne replied on Feb 12, 2014 said that $$ was apporved and letter will be sent out.

Action Type: Response Requested - Reports
Action Date: 2/3/2014
Received Issue Date: 2/3/2014
Action: Remedial Progress Report - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5796891
Title Description Comments:

Remediation Status Report from July 2013 thru January 2014. SVE system shut down due to lack of funding. Will contact CU Fund. Call from Tabitha Ester (714.931.2308) of Reynolds Group, consultant, and she said that they just received a check for funding. - Acceptance of work plan for aquifer pilot test and removal of MW9 and MW10 from the gw monitoring program.

Action Type: Response Requested - Other
Action Date: 1/22/2014
Received Issue Date: 1/22/2014
Action: Other Report / Document
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5824508

Title Description Comments:

2013 Annual Operations Summary Report

Action Type: Response Requested - Workplans
Action Date: 1/3/2014
Received Issue Date: 1/3/2014
Action: Pilot Study / Treatability Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5796896
Title Description Comments:

Work Plan for Groundwater Monitoring Program Modification and Groundwater Remediation Pilot Testing - Email sent accepting work plan

Action Type: Enforcement/Orders
Action Date: 12/2/2013
Received Issue Date: 12/2/2013
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Email sent to Ed Reynolds (reynolds@reynolds-group.com) RE: update on site activites and submittal of work plan for groundwater remeidation.

Action Type: Response Requested - Other
Action Date: 9/19/2013
Received Issue Date: 9/18/2013
Action: Correspondence
Doc Link:
Title Description Comments:

Email received from Edward Reynold of the Reynold Group (reynolds@reynolds-group.com) Thank you for your oversight of this case and your interaction with us. We've made sporadic, but very good progress on soil remediation at the Subject Site using soil vapor extraction. To that end we sent you some reports a few weeks ago including groundwater monitoring and a remediation status update report. The soil vapor extraction is making substantiantial progress on removing secondary source gasoline from the subsurface soils. I followed up Friday with a phone call to ask you. if indeed, you would direct groundwater remediation. Please recall that you told us you would not make such a determination until after soil vapor extraction had operated for some time at the Site. This is a bit out of the norm for us, as many times it makes economic and timing sense to initiate, or at least plan for groundwater remediation concurrently with active in-situ remediation. We now have a fairly good history of secondary source removal of gasoline, so the big question is, will you direct that groundwater remediation is necessary? As you are aware there is no infrastructure for groundwater remediation on Site and we would need to plan accordingly on the technical side and funding side. It would be wonderful if the active soil vapor extraction was sufficient alone to receive closure from your Board, so we have to ask. Will you issue a directive letter, one way or the other stating that groundwater remediation is either required or not? Or do you require that we initiate something more than this e-mail? Please advise. RESPONSE: Thank you for your email. I have reviewed the Semi-Annual Groundwater Monitoring Report July 2013 and the Remediation Status Report September 2012 - July 2013 for the site. Several of the onsite monitoring wells MW1-MW-4 and MW7 report TPHg, benzene and MTBE concentrations several orders of magnitude above the WQOs. I concur that additional remedial efforts to reduce these concentrations in groundwater are warranted. Please prepare a work plan for active remediation of residual contamination in the groundwater at this site.

Action Type: Response Requested - Reports
Action Date: 8/15/2013
Received Issue Date: 8/14/2013
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5778540
Title Description Comments:

Remediation status report Sept 2012-July 2013

Action Type: Response Requested - Reports
Action Date: 8/15/2013
Received Issue Date: 8/12/2013
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5778539
Title Description Comments:

Semiannual GWM Report (July) 2013

Action Type: Response Requested - Reports
Action Date: 1/31/2013

Received Issue Date: 9/19/2012
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5753033
Title Description Comments:

Semiannual Event August 2012 - Semiannual Groundwater Report (August 2012). SVE system shut off November 9, 2011 and restarted in August 2012. COCs showed decrease in concentrations.

Action Type: Response Requested - Reports
Action Date: 10/31/2012
Received Issue Date: 10/31/2012
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5756436
Title Description Comments:

Remediation Status Report Nov 2011 through Sept 2012. MW-1 reported highest TPH @ 62,859 ppb, benzene @ 1,388.6 ppb and MTBE @ 15,893.1 ppb.

Action Type: Other Regulatory Actions
Action Date: 10/19/2012
Received Issue Date: 10/19/2012
Action: Site Visit / Inspection / Sampling
Doc Link:
Title Description Comments:

Paved, surrounded by chain link fence. Vacant buildings onsite.

Action Type: Enforcement/Orders
Action Date: 9/25/2012
Received Issue Date: 9/25/2012
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Call to Tabitha Ester of The Reynolds Group (714-931-2308) to discuss remedial activities. Recommended that the SVE system remain in operation until levels reach asymtotic and to upload the semiannual groundwater report, August 2012, into Geotracker.

Action Type: Response Requested - Reports
Action Date: 8/31/2012
Received Issue Date: 8/31/2012
Action: Remedial Progress Report
Doc Link:
Title Description Comments:

Second Quarter 2012

Action Type: Response Requested - Reports
Action Date: 3/13/2012
Received Issue Date: 3/31/2012
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5733636
Title Description Comments:

- Semiannual groundwater monitoring report (first half)-2012. Had to shut down the active remediation on November 8, 2011, because CU Funds ran out. Emailed Dayne Kendrick to find out when additional funding will be available.

Action Type: Response Requested - Reports
Action Date: 12/31/2011
Received Issue Date: 12/27/2011
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5728005
Title Description Comments:

- Third quarter -2011 remediation status report.

Action Type: Response Requested - Reports
Action Date: 8/31/2011
Received Issue Date: 8/31/2011
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5721181
Title Description Comments:

- SVE will switch to catalytic mode August 2011 to reduce cost of utilities.

Action Type: Response Requested - Reports
Action Date: 7/30/2011
Received Issue Date: 7/11/2011
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5716956
Title Description Comments:

- Semiannual (June) QMR-2011. Well with high HC conce are: MW-1 TPHg @ 78,614ppb; benzene @2,691ppb; MTBE @67,381ppb and MW-4 TPHg @106,716ppb; benzene @ 2,308ppb; and MTBE @ 41,327ppb

Action Type: Response Requested - Reports
Action Date: 6/16/2011
Received Issue Date: 6/16/2011
Action: Well Installation Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5715620
Title Description Comments:

- MW installation report for MW-5R and MW-13. Relocated MW-7.

Action Type: Response Requested - Reports
Action Date: 5/30/2011
Received Issue Date: 5/27/2011
Action: Remedial Progress Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5714192
Title Description Comments:

- Soil Vapor Extraction Remediation System Start-up Report. Date of start-up April 25, 2011

Action Type: Other Regulatory Actions
Action Date: 4/26/2011
Received Issue Date: 4/26/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6084935&temptable=ENFORCEMENT
Title Description Comments:

Acceptance of WP to install two MWs at the site. WP attached to acceptance letter.

Action Type: Response Requested - Workplans
Action Date: 4/26/2011
Received Issue Date: 4/26/2011
Action: Well Installation Workplan
Doc Link:
Title Description Comments:

- Work plan for monitoring well installation sent via email from The Reynolds Group. Email is attached to work plan acceptance letter of the same date.

Action Type: Other Regulatory Actions
Action Date: 3/29/2011
Received Issue Date: 3/29/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6082091&temptable=ENFORCEMENT
Title Description Comments:

Acceptance of interim remedial action plan to connect VEWs to SVE treatment system.

Action Type: Response Requested - Reports
Action Date: 3/14/2011
Received Issue Date: 3/16/2011
Action: Pilot Study/ Treatability Report - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5709495
Title Description Comments:

- Report on SVE pilot test with interim RAP/technical WP for SVE and Optional WP for Additional groundwater assessment.

Action Type: Other Regulatory Actions
Action Date: 2/23/2011
Received Issue Date: 2/23/2011
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6078740&temptable=ENFORCEMENT
Title Description Comments:

Acceptance of SVE pilot test. To be conducted first week of March 2011.

Action Type: Response Requested - Reports
Action Date: 2/15/2011
Received Issue Date: 2/14/2011
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5707245
Title Description Comments:

- Fourth QMR-10

Action Type: Enforcement/Orders
Action Date: 2/9/2011
Received Issue Date: 2/9/2011
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Call from Ed Reynolds (714.920.6310 cell) He will upload documents into Geotracker. Will send me a work plan request for a pilot test for the VES system next week.

Action Type: Enforcement/Orders
Action Date: 2/8/2011
Received Issue Date: 2/8/2011
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Left msg w/ Ed Reynolds (714.920.9310) to discuss the site and next steps.

Action Type: Enforcement/Orders
Action Date: 1/13/2011
Received Issue Date: 1/13/2011
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Email to Daniel Nunez (714-730-5397) nynez@reynolds-group.com. RE: update on site activites. Danny emailed me stating that they have completed the following: 1. Survey Site 2. Repair several well boxes 3. Develop all wells and 4. Groundwater sample wells on November 30, 2010. We are in the process of completing the groundwater monitoring report. We have a file review scheduled for on January 20, 2011 at the SBCFD to assist with our background of the site and help develop a site conceptual model.

Action Type: Response Requested - Other
Action Date: 11/1/2010

Received Issue Date: 11/1/2010
Action: Verbal Communication
Doc Link:
Title Description Comments:

- Email received from Daniel Nunez (714-730-5397) nynez@reynolds-group.com As a followup to our converstation, we plan on advancing the next phases of work for this Site: November 3, 2010 - Site Recon of the wells to determine the condition of the wells and see if repairs are necessary. November 9, 2010 - Well development and well repairs. (if survey is necessary, advance survey of the site and wells). November 12, 2010 - Groundwater Monitoring for all wells. Once groundwater monitoring has been performed, a report will be generated and a Site Conceptual Model will be drafted with the results of the groundwater monitoring findings along with the historical data and all info to properly conceptualize the site and figure out what the next phases of work are.

Action Type: Enforcement/Orders
Action Date: 10/20/2010
Received Issue Date: 10/20/2010
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Call to Edward Koch of Reynolds Group. RE: discuss site and recent activities. He said the is working with the CU Fund to get in compliance and get work started out there again. 714-681-3757.

Action Type: Enforcement/Orders
Action Date: 10/18/2010
Received Issue Date: 10/18/2010
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Called Jonathan Palacios (760-881-8840). He said that his dad has hired a new consultant, The Reynolds Group (714-730-5397) contact person is Edward Reynolds. Jonahthan said that they did the sampling at the site. Will call to confirm.

Action Type: Enforcement/Orders
Action Date: 10/4/2010
Received Issue Date: 10/4/2010
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Called Jonathan Palacios (760-881-8840). He said that his dad has hired a new consultant and they are supposed to come by tomorrow. Jonathan said he would call me to let me know who the consultant is.

Action Type: Enforcement/Orders
Action Date: 9/27/2010
Received Issue Date: 9/27/2010
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Left msg on Jose Palacios phone (760-246-0976) and called and spoke with his son, Jonathan Palacios (760-881-8840). I told Jonathan that monitoring was required at his dad's site and that if it was not conducted that he would be receiving a notice of violation from this office. A response was requested by the end of this week.

Action Type: Enforcement/Orders
Action Date: 9/23/2010
Received Issue Date: 9/23/2010
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Call from Shayan Simantob with Ami Adini & Associated (323-913-4073) to update site status of project. RP is recalicitrant and won't allow any work to be conducted at the site. Shayan said that is company is ready to go with monitoring and sampling.

Action Type: Enforcement/Orders
Action Date: 8/19/2010

Received Issue Date: 8/19/2010
Action: Verbal Enforcement
Doc Link:
Title Description Comments:

Left message with Shayan Simantob with Ami Adini & Associated (323-913-4073). RE: site status update. He said the his boss was speaking with the RP today to discuss starting up groundwater monitoring. Groundwater monitoring has not been conducted at the site since January 2006. No active remediation has ever been conducted at this site.

Action Type: Referral to Other Agency
Action Date: 9/18/2009
Received Issue Date: 9/18/2009
Action: Referral to Regional Board
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6030604&tempt able=ENFORCEMENT
Title Description Comments:

Transfer Agreement

Action Type: Notices
Action Date: 7/27/2009
Received Issue Date: 7/27/2009
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6023629&tempt able=ENFORCEMENT
Title Description Comments:

Project File Scans

Action Type: Other Regulatory Actions
Action Date: 2/15/2008
Received Issue Date: 2/15/2008
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6281144&tempt able=ENFORCEMENT
Title Description Comments:

USTCF Case Review

Action Type: Response Requested - Reports
Action Date: 10/15/2007
Received Issue Date: 10/15/2007
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

- Third QMR-07

Action Type: Response Requested - Reports
Action Date: 4/15/2006
Received Issue Date: 4/15/2006
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5673748
Title Description Comments:

- First QMR-06

Action Type: Response Requested - Reports
Action Date: 11/1/2005
Received Issue Date: 11/1/2005
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0607100954&doc_id=5673749
Title Description Comments:

- Third QMR-05

Action Type: Other Regulatory Actions
Action Date: 6/28/2005
Received Issue Date: 6/28/2005
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6030602&temptable=ENFORCEMENT
Title Description Comments:

Follow up Letter

Action Type: Response Requested - Workplans
Action Date: 3/21/2003
Received Issue Date: 9/18/2002
Action: Other Workplan
Doc Link:
Title Description Comments:

Additional Information Workplan - Additional site assessment

Action Type: Response Requested - Reports
Action Date: 12/31/2002
Received Issue Date: 12/16/2002
Action: CAP/RAP - Other Report
Doc Link:
Title Description Comments:

Corrective Action Report - Public Notice of Corrective Action

Action Type: Response Requested - Other
Action Date: 12/31/2002
Received Issue Date: 12/12/2002
Action: Other Report / Document
Doc Link:
Title Description Comments:

Technical Report - Additional Site Assessment WP & Remedial Action Plan

Action Type: Other Regulatory Actions
Action Date: 4/3/2002
Received Issue Date: 4/3/2002
Action: Staff Letter
Doc Link:
Title Description Comments:

AEO-signed mass mailed letter reminding RP of EDF submittal requirement per AB 2886

Action Type: Enforcement/Orders
Action Date: 8/18/1999
Received Issue Date: 8/18/1999
Action: * Historical Enforcement
Doc Link:
Title Description Comments:

Action Type: Cleanup Action
Action Date: 8/19/2016
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:
Title Description Comments:

SVE restarted on August 19, 2016. Carbon change-out of two 1,000lb vapor phase carbon vessels was performed on August 29, 2016. An additional change-out was of one 1,000lb vapor phase carbon vessel was performed on October 18, 2016.

Action Type: Cleanup Action
Action Date: 2/1/2014
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 8/9/1999
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 7/10/1998
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 7/10/1998
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Enforcement - Other
Action Date:
Received Issue Date:
Action: Unknown
Doc Link:
Title Description Comments:

Action Type: Cleanup Action
Action Date:
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:
Title Description Comments:

TRG continued efficient operation of the soil vapor extraction (SVE) system at the Site during this reporting period. The system was switched from thermal-catalytic mode to the more economical carbon filtration mode in October 2014.

Action Type: Cleanup Action
Action Date:
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:
Title Description Comments:

Action Type: Cleanup Action
Action Date:
Received Issue Date:
Action: Pump & Treat (P&T) Groundwater
Doc Link:
Title Description Comments:

Action Type: Cleanup Action
Action Date:

Received Issue Date:
Action: Dual Phase Extraction
Doc Link:
Title Description Comments:

Pump and Treat and SVE system shut down March 1, 2016.

Action Type: Cleanup Action
Action Date: 4/25/2011
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:
Title Description Comments:

Start up date for SVE system April 25, 2011.

Action Type: Cleanup Action
Action Date: 4/25/2011
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:
Title Description Comments:

LUST Cleanup Sites from GeoTracker Search - Site Maps (as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7791620910/T0607100954.PDF
Size : 189 KB
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Submitted: 6/22/2011

Title: GEO BORE MW13 (MW-13)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6018766045/T0607100954.PDF
Size : 34 KB
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Submitted: 6/13/2011

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/8801056861/T0607100954.PDF
Size : 170 KB
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Submitted: 6/13/2011

LUST Cleanup Sites from GeoTracker Search - Documents (as of Jan 18, 2019)

Document Type: Site Documents
Document Date: 2/7/2019
Type: STAFF LETTER
Size :
Submitted By: ABBY CAZIER (REGULATOR)
Submitted:
Title: REQUEST TO DESTROY MONITORING WELLS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6384868

Document Type: Site Documents
Document Date: 11/26/2018
Type: STATUS / PROGRESS REPORTS
Size : 1,781 KB
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Submitted:
Title: SUMMARY REPORT - SUCCESSFUL SEARCH FOR WELL MW-5
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4786993205/T0607100954.PDF

Document Type: Site Documents
Document Date: 10/30/2018
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE
Size :
Submitted By: ABBY CAZIER (REGULATOR)
Submitted:
Title: CASE CLOSURE CONSIDERATION PUBLIC NOTICE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6373959

Document Type: Site Documents
Size :
Document Date: 8/14/2018
Submitted By: EMILY CUSHMAN (REGULATOR)
Type: EMAIL CORRESPONDENCE
Submitted:
Title: EMAIL FOLLOW-UP REGARDING MISSING MONITORING WELL MW-5
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6366758

Document Type: Site Documents
Size :
Document Date: 7/11/2018
Submitted By: EMILY CUSHMAN (REGULATOR)
Type: EMAIL CORRESPONDENCE
Submitted:
Title: REQUEST FOR MAILING LIST FOR PUBLIC COMMENT PERIOD REGARDING CLOSURE, DUE 8/13/2018
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6363704

Document Type: Monitoring Reports
Size : 6,212 KB
Document Date: 6/26/2018
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY
Submitted:
Title: 2ND QUARTER 2018 GROUNDWATER MONITORING REPORT AND REQUEST FOR CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7386680305/T0607100954.PDF

Document Type: Site Documents
Size :
Document Date: 6/22/2018
Submitted By: CASEY SATKOWSKI (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY
Submitted:
Title: 14806 3RD RSR ADDL WORK JUNE 2018
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&document_id=5968088

Document Type: Monitoring Reports
Size : 6,110 KB
Document Date: 3/5/2018
Submitted By: EMILY CUSHMAN (REGULATOR)
Type: MONITORING REPORT - QUARTERLY
Submitted:
Title: LIMITED FEBRUARY 2018 GROUNDWATER MONITORING EVENT - LIMITED FEBRUARY 2018 GROUNDWATER MONITORING EVENT
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3303484857/%5BTRG7614%5D%20February%202018%20Limited%20Groundwater%20Sampling%20Results%2C%20Former%20Adelanto%20Shell%2Epdf

Document Type: Site Documents
Size : 315 KB
Document Date: 2/8/2018
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT
Submitted:
Title: REMEDIATION PROGRESS REPORT SEPTEMBER 2017 TO JANUARY 2018
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9590194940/T0607100954.PDF

Document Type: Site Documents
Size :
Document Date: 12/21/2017
Submitted By: EMILY CUSHMAN (REGULATOR)
Type: STAFF LETTER
Submitted:
Title: REQUEST FOR REBOUND TESTING
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6343974

Document Type: Site Documents
Size :
Document Date: 12/5/2017
Submitted By: EMILY CUSHMAN (REGULATOR)
Type: EMAIL CORRESPONDENCE
Submitted:
Title: EMAIL RECAPPING JET PHONE CALL: THERE HAS BEEN NO REBOUND TESTING, REQUESTING TWO QUARTERS TO ASSESS MTBE CONCENTRATIONS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6342670

Document Type: Site Documents
Size : 3,223 KB
Document Date: 10/25/2017
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CONCEPTUAL SITE MODEL
Submitted:
Title: CONCEPTUAL SITE MODEL
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4347067475/T0607100954.PDF

Document Type: Site Documents
Size : 3,437 KB
Document Date: 10/25/2017
Submitted By: THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REQUEST FOR CLOSURE
Submitted:
Title: LOW THREAT CLOSURE EVALUATION AND REQUEST FOR CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8302734613/T0607100954.PDF

Document Type: Site Documents **Size :** 913 KB
Document Date: 9/5/2017 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION PROGRESS REPORT JUNE THROUGH AUGUST 2017
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4489389240/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 8/8/2017 **Submitted By:** JEFF BROOKS (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: EMAIL PROJECT UPDATE- REQUEST TO PREPARE CURRENT STAND-ALONE REQ FOR CLOSURE WITH LTCP EVAL AND STAND-ALONE CSM WITH SENSITIVE RECEPTOR SURVEY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6335257

Document Type: Site Documents **Size :** 62,817 KB
Document Date: 6/30/2017* **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION SYSTEMS STATUS REPORT MAY 2016 TO MAY 2017
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3337885260/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 5,525 KB
Document Date: 6/29/2017* **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI-ANNUAL GROUNDWATER MONITORING REPORT FIRST HALF 2017
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6189816415/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 10,288 KB
Document Date: 12/30/2016 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI-ANNUAL GROUNDWATER MONITORING REPORT SECOND HALF 2016
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1876153767/T0607100954.PDF

Document Type: Site Documents **Size :** 1,734 KB
Document Date: 10/24/2016 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: SOIL VAPOR INTRUSION INVESTIGATION REPORT **Submitted:**
Title: SOIL VAPOR SAMPLING REPORT 10-24-2016
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1692545294/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 10/14/2016 **Submitted By:** TAMERLE LUNDQUIST (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: EMAIL UPDATE FROM TABITHA ESTHER WITH THE REYNOLDS GROUP
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&document_id=5903286

Document Type: Site Documents **Size :**
Document Date: 8/12/2016 **Submitted By:** TAMERLE LUNDQUIST (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6294980

Document Type: Site Documents **Size :**
Document Date: 8/8/2016 **Submitted By:** TAMERLE LUNDQUIST (REGULATOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: NOTICE OF INTENT PACKAGE - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&document_id=5898029

Document Type: Monitoring Reports **Size :** 9,673 KB
Document Date: 6/20/2016 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI ANNUAL GROUNDWATER MONITORING REPORT FIRST HALF 2016
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6815492630/T0607100954.PDF

Document Type: Site Documents **Size :** 41,516 KB
Document Date: 6/20/2016 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION SYSTEMS STATUS REPORT(OCTOBER 17, 2015 TO MAY 6, 2016)
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6262468338/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 6/14/2016 **Submitted By:** TAMERLE LUNDQUIST (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6287670

Document Type: Site Documents **Size :** 46,717 KB
Document Date: 11/19/2015 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION SYSTEMS STATUS REPORT- MAY 8 TO OCTOBER 16, 2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7952417731/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 9,739 KB
Document Date: 11/19/2015 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI-ANNUAL GROUNDWATER MONITORING REPORT -OCTOBER 2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7684099197/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 5,513 KB
Document Date: 5/29/2015 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI ANNUAL GROUNDWATER MONITORING REPORT - APRIL/MAY 2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4030699312/T0607100954.PDF

Document Type: Site Documents **Size :** 23,316 KB
Document Date: 5/27/2015 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION STATUS REPORT WITH INFILTRATION TRENCH PILOT TESTING REPORT - JAN TO MAY 13, 2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7408815503/T0607100954.PDF

Document Type: Site Documents **Size :** 29,832 KB
Document Date: 1/15/2015 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION STATUS REPORT - 4TH QTR 2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7874467372/T0607100954.PDF

Document Type: Site Documents **Size :** 8,084 KB
Document Date: 1/14/2015 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: OTHER WORKPLAN **Submitted:**
Title: WORKPLAN FOR INFILTRATION TRENCH PILOT TESTING 1-14-2015
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9987647354/T0607100954.PDF

Document Type: Site Documents **Size :** 23,987 KB
Document Date: 10/29/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION STATUS REPORT - FEBRUARY TO SEPTEMBER 2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4885673284/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 20,531 KB
Document Date: 10/29/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI ANNUAL GROUNDWATER MONITORING REPORT - SEPTEMBER 2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3559175014/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 6/16/2014 **Submitted By:** TOM GAVIGAN (REGULATOR)
Type: CAP/RAP - OTHER REPORT **Submitted:**
Title: RAP ADDENDUM FOR GROUNDWATER REMEDIATION - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&document_id=5807466

Document Type: Site Documents **Size :** 20,282 KB
Document Date: 6/11/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN - ADDENDUM **Submitted:**
Title: REMEDIAL ACTION PLAN ADDENDUM FOR GROUNDWATER REMEDIATION 6-11-2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7870719254/T0607100954.PDF

Document Type: Site Documents **Size :** 17,292 KB
Document Date: 5/19/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: PILOT STUDY/ TREATABILITY REPORT **Submitted:**
Title: GROUNDWATER REMEDIATION PILOT TEST REPORT 5-19-2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7683364808/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 16,399 KB
Document Date: 4/4/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI ANNUAL GROUNDWATER MONITORING REPORT - FEBRUARY 2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2878608465/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 2/3/2014 **Submitted By:** TAMERLE LUNDQUIST (REGULATOR)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION STATUS REPORT FROM JULY 2013 THRU JANUARY 2014. SVE SYSTEM SHUT DOWN DUE TO LACK OF FUNDING. WILL CONTACT CU FUND. CALL FROM TABITHA ESTER (714.931.2308) OF REYNOLDS GROUP, CONSULTANT, AND SHE SAID THAT THEY JUST RECEIVED A CHECK FOR FUNDING. - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&document_id=5796891

Document Type: Site Documents **Size :** 19,820 KB
Document Date: 1/31/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: PILOT STUDY / TREATABILITY WORKPLAN **Submitted:**
Title: WORKPLAN FOR GROUNDWATER MONITORING PROGRAM MODIFICATION AND GROUNDWATER REMEDIATION PILOT TESTING 1-2014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8937837719/T0607100954.PDF

Document Type: Site Documents **Size :** 20,317 KB
Document Date: 1/31/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**
Title: REMEDIATION STATUS REPORT 7-7-13 TO 1-31-14
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9070484220/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 4,848 KB
Document Date: 1/22/2014 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - ANNUALLY **Submitted:**
Title: 2013 ANNUAL OPERATIONS SUMMARY REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4009162247/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 12,664 KB
Document Date: 7/31/2013 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI ANNUAL GWM REPORT - JULY 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8328351855/T0607100954.PDF

Document Type: Site Documents **Size :** 24,413 KB
Document Date: 7/31/2013 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: REMEDIAL PROGRESS REPORT **Submitted:**

Title: REMEDIATION STATUS REPORT SEPT 2012 THROUGH JULY 6, 2013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3470203459/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 20,142 KB
Document Date: 10/29/2012 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: REMEDIATION STATUS REPORT NOV. 2011 TO SEPT. 2012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2940978944/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 13,698 KB
Document Date: 9/14/2012 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: SEMI ANNUAL GROUNDWATER MONITORING REPORT - AUGUST 2012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6269973695/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 4,476 KB
Document Date: 3/13/2012 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 3.13.2012 1ST HALF 2012 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6627079784/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 872 KB
Document Date: 1/17/2012 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - ANNUALLY **Submitted:**
Title: 1.17.2012 ANNUAL 2011 OPERATIONS SUMMARY REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1001143693/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 5,362 KB
Document Date: 12/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 12.15.2011 3RD QTR 2011 REMEDIATION STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1790814995/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 4,800 KB
Document Date: 8/29/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20110829 2ND QTR 2011 REMEDIATION STATUS REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6003630876/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 6,644 KB
Document Date: 7/8/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 7.8.2011 1ST HALF 2011 GWM REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1187911272/T0607100954.PDF

Document Type: Site Documents **Size :** 1,912 KB
Document Date: 6/14/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: 6.10.2011 GWM WELL INSTALLATION REPORT 7614
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6014100074/T0607100954.PDF

Document Type: Site Documents **Size :** 4,789 KB
Document Date: 5/31/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: OPERATION AND MAINTENANCE PLAN/MONITORING REPORT **Submitted:**
Title: 5.23.2011 SOIL VAPOR EXTRACTION REMEDIATION SYSTEM START-UP REPORT 7614
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3788065612/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 4/26/2011 **Submitted By:** (REGULATOR)
Type: STAFF LETTER **Submitted:**

Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6084935

Document Type: Site Documents **Size :** 87 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 2.2.2000 SITE ASSESSMENT WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5627652764/T0607100954.PDF

Document Type: Site Documents **Size :** 1,475 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: SITE ASSESSMENT REPORT **Submitted:**
Title: 4.15.2001 JAMES HASLETT ADDITIONAL SITE ASSESSMENT AND VET WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8836979687/T0607100954.PDF

Document Type: Site Documents **Size :** 109 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 6.28.2005 CORRESPONDENCE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2702066004/T0607100954.PDF

Document Type: Site Documents **Size :** 199 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 12.9.2002 ADDITIONAL SITE ASSESSMENT WP & RAP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7682648658/T0607100954.PDF

Document Type: Site Documents **Size :** 13,543 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CAP/RAP - OTHER REPORT **Submitted:**
Title: 2011.3.14 SOIL VAPOR EXTRACTION PILOT TESTING IRAP AND WORKPLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9274499475/T0607100954.PDF

Document Type: Site Documents **Size :** 106 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 10.25.2000 ADDITIONAL SITE ASSESSMENT WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2078180968/T0607100954.PDF

Document Type: Site Documents **Size :** 743 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: SITE ASSESSMENT REPORT **Submitted:**
Title: 10.18.2002 JAMES HASLETT ADDITIONAL SITE ASSESSMENT WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1177231788/T0607100954.PDF

Document Type: Site Documents **Size :** 165 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: WELL INSTALLATION REPORT **Submitted:**
Title: 1.21.2004 J&B REVISED WELL LOCATIONS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3035569190/T0607100954.PDF

Document Type: Site Documents **Size :** 51 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 11.27.2007 RE - GWM 3RD QTR 2007
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7069745659/T0607100954.PDF

Document Type: Site Documents **Size :** 4,722 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: SITE ASSESSMENT REPORT **Submitted:**

Title: 7.31.2000 J&B SITE ASSESSMENT REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3710541725/T0607100954.PDF

Document Type: Site Documents **Size :** 1,158 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: SITE ASSESSMENT REPORT **Submitted:**
Title: 10.10.2000 J&B ADDITIONAL SITE ASSESSMENT WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6621506690/T0607100954.PDF

Document Type: Site Documents **Size :** 1,011 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: PRELIMINARY SITE ASSESSMENT WORKPLAN **Submitted:**
Title: 1.25.2000 JAMES HASLETT SITE ASSESSMENT WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4004632532/T0607100954.PDF

Document Type: Site Documents **Size :** 5,769 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: SITE ASSESSMENT REPORT **Submitted:**
Title: 9.28.2001 ADDITIONAL SITE ASSESSMENT AND VAPOR EXTRACTION TEST REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2060012757/T0607100954.PDF

Document Type: Site Documents **Size :** 112 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 5.14.2001 ADDITIONAL SITE ASSESSMENT AND VET WP
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9079831719/T0607100954.PDF

Document Type: Site Documents **Size :** 76 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 1.5.2004 REVISED WELL LOCATIONS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6437565624/T0607100954.PDF

Document Type: Site Documents **Size :** 118 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 9.18.2006 TRANSFER OF LEAD STATUS FOR LOP CASE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8996957361/T0607100954.PDF

Document Type: Site Documents **Size :** 196 KB
Document Date: 4/6/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 9.21.2001 UST LEAK INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7550721526/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 3/29/2011 **Submitted By:** (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6082091

Document Type: Site Documents **Size :**
Document Date: 3/16/2011 **Submitted By:** (REGULATOR)
Type: PILOT STUDY/ TREATABILITY REPORT **Submitted:**
Title: UNKNOWN - REGULATOR RESPONSE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&document_id=5709495

Document Type: Monitoring Reports **Size :** 2,062 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**

Title: 20051101 GWM REPORT 3RD QTR 2005
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7246149718/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 962 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20020724 GWM REPORT 2ND QTR 2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2007318079/T0607100954.PDF

Document Type: Site Documents **Size :** 51 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 20071127 RE - GWM 3RD QTR 2007
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5054303765/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 2,474 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20060224 GWM REPORT 1ST QTR 2006
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4116349220/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 818 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20031107 GWM REPORT 3RD QTR 2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3004887402/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 1,012 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20030205 GWM REPORT 4TH QTR 2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1921414971/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 2,006 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20071015 GWM REPORT 3RD QTR 2007
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8096692681/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 653 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20020429 GWM REPORT 1ST QTR 2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9922556579/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 779 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20021125 GWM REPORT 3RD QTR 2002
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7882567644/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 943 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20030430 GWM REPORT 1ST QTR 2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7296800017/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 774 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**

Title: 20040112 GWM REPORT 4TH QTR 2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4122598230/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 671 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20020115 GWM REPORT 4TH QTR. 2001
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4039387524/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 968 KB
Document Date: 3/15/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: 20030825 GWM REPORT 2ND QTR 2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8451004981/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 2/23/2011 **Submitted By:** (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6078740

Document Type: Monitoring Reports **Size :** 4,648 KB
Document Date: 2/10/2011 **Submitted By:** THE REYNOLDS GROUP - TUSTIN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 20110209 2ND HALF 2010 GWM REPORT 7614
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3018747985/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 9/18/2009 **Submitted By:** JACKSON CRUTSINGER (REGULATOR)
Type: REFERRAL TO REGIONAL BOARD **Submitted:**
Title: TRANSFER AGREEMENT
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6030604

Document Type: Site Documents **Size :**
Document Date: 7/27/2009 **Submitted By:** (REGULATOR)
Type: LETTER - NOTICE **Submitted:**
Title: PROJECT FILE SCANS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6023629

Document Type: Site Documents **Size :**
Document Date: 2/15/2008 **Submitted By:** (REGULATOR)
Type: CLEAN UP FUND - CASE CLOSURE REVIEW SUMMARY REPORT (RSR) **Submitted:**
Title: USTCF CASE REVIEW
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6281144

Document Type: Monitoring Reports **Size :** 974 KB
Document Date: 2/24/2006 **Submitted By:** SAID JAVAD MASOUDI (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: JANUARY 2006, GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8695988297/T0607100954.PDF

Document Type: Monitoring Reports **Size :** 732 KB
Document Date: 11/28/2005 **Submitted By:** SAID JAVAD MASOUDI (AUTH_RP)
Type: MONITORING REPORT - QUARTERLY **Submitted:**
Title: THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3774015665/T0607100954.PDF

Document Type: Site Documents **Size :**
Document Date: 6/28/2005 **Submitted By:** JACKSON CRUTSINGER (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: FOLLOW UP LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0607100954&enforcement_id=6030602

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
23	1 of 1	SE	0.42 / 2,196.07	2,901.78 / 122	ADELANTO SCHOOL DISTRICT 11824 AIR BASE RD ADELANTO CA 92301	LUST

Global ID: T0607100739
Status: COMPLETED - CASE CLOSED
Status Date: 1994-06-09 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: SAN BERNARDINO
Latitude: 34.5720215
Longitude: -117.4064884

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No: 6B3600330T
Local Case No: 91025
Begin Date: 1991-11-14 00:00:00
Lead Agency: SAN BERNARDINO COUNTY
Local Agency:
CUF Case: NO
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
DWR GW Subbasin Name: Upper Mojave River Valley (6-042)
Disadvantaged Community:
Site History:
Potential COC: Diesel
How Discovered: Nuisance Conditions
Stop Method:
Stop Description:
Case Worker:
File Location: Local Agency

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1991-12-17 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1991-12-16 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1991-11-14 00:00:00
Action: Leak Stopped

Action Type: Other
Date : 1991-11-14 00:00:00
Action: Leak Discovery

Status History

Status: Completed - Case Closed
Status Date: 1994-06-09 00:00:00

Status: Open - Remediation
Status Date: 1992-06-11 00:00:00

Status: Open - Site Assessment
Status Date: 1991-12-16 00:00:00

Status: Open - Site Assessment
Status Date: 1991-11-14 00:00:00

Status: Open - Case Begin Date
Status Date: 1991-11-14 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile (as of Jan 18, 2019)

Site Facility Name: ADELANTO SCHOOL DISTRICT
Address: 11824 AIR BASE RD

Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: DIESEL
WDR Place Type:
WDR File:
WDR Order:
City: ADELANTO
Zip: 92301
County: SAN BERNARDINO
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, FRSH
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0607100739
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 6/9/1994
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0607100739&tabname=regulatoryhistory
Potential Media of Concern: SOIL
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Mojave River Valley (6-042)
Calwater Watershed Name: Mojave - Upper Mojave (628.20)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SAN BERNARDINO COUNTY (LEAD) - CASE #: 91025
LAHONTAN RWQCB (REGION 6V) - CASE #: 6B3600330T
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Status History (as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 6/9/1994

Status: Open - Remediation
Date : 6/11/1992

Status: Open - Site Assessment
Date : 12/16/1991

Status: Open - Site Assessment
Date : 11/14/1991

Status: Open - Case Begin Date
Date : 11/14/1991

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities (as of Jan 18, 2019)

Action Type: Enforcement/Orders
Action Date: 12/17/1991
Received Issue Date: 12/17/1991
Action: * Historical Enforcement
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 12/16/1991
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 11/14/1991
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 11/14/1991
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Unplottable Summary

Total: 16 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		KOALA ROAD, NORTH OF EL MIRAGE ROAD	ADELANTO CA	92301	820120311
CDL		ON AUBURN LANE, CROSS ADELANTO ROAD	ADELANTO CA	92301	820121747
CDL		ON AUBURN AVE, 1/4 MI W OF HWY 395	ADELANTO CA	92301	820118416
CDL		AUBURN ST, W OF 395	ADELANTO CA		820112876
CHMIRS	phil dearing	rialto lilac street	CA		860457697
CHMIRS	Kinder Morgan	Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd.	Adelanto CA		821830031
EMISSIONS	CALNEV PIPE LINE COMPANY	AIR BASE RD	ADELANTO CA	92301	861248435
EMISSIONS	AEROCHEM INC	HCR BOX 80A EL MIRAGE RD	ADELANTO CA		861201805
ERNS		16800 ASTER RD	ADELANTO CA	92301	867629045
HAZNET	EL MIRAGE RECREATIONAL AREA	N OF EL MIRAGE RD, W OF INTER.	ADELANTO CA	000000000	826445313
HAZNET	1X LEWIS HOMES OF CALIF	10440 VERBENA	ADELANTO CA	923010000	826581668

HHSS	DM GILLILAN	P.O. BOX 833 CRIPPEN	ADELANTO CA	92301	822963211
HHSS	GEORGE AIR FORCE BASE	AIR BASE RAD, GEORGE AIR FORCE ADELANTO ROAD	ADELANTO CA	92392	822929055
HIST TANK	GEORGE AIR FORCE BASE	AIR BASE RAD, GEORGE AIR FORCE	ADELANTO CA		865036518
HMIRS		US HWY 395	ADELANTO CA		818245237
SANBERN CUPA	SCE Roadway Substation	Lawson AVE	Adelanto CA	92301	820060503

Unplottable Report

Site:
KOALA ROAD, NORTH OF EL MIRAGE ROAD ADELANTO CA 92301

CDL

Clue: 2002-08-081
Date: 8/20/2002
County: SAN BERNARDINO
Lab Type: L
Lab Type Description: Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

Site:
ON AUBURN LANE, CROSS ADELANTO ROAD ADELANTO CA 92301

CDL

Clue: 2002-05-063
Date: 5/11/2002
County: SAN BERNARDINO
Lab Type: A
Lab Type Description: Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site:
ON AUBURN AVE, 1/4 MI W OF HWY 395 ADELANTO CA 92301

CDL

Clue: 2001-11-182
Date: 11/30/2001
County: SAN BERNARDINO
Lab Type: A
Lab Type Description: Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site:
AUBURN ST, W OF 395 ADELANTO CA

CDL

Clue: 2001-06-137
Date: 6/25/2001
County: SAN BERNARDINO
Lab Type: A
Lab Type Description: Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site: ***phil dearing***
rialto lilac street CA

CHMIRS

Control No:
Notified Date Time: 10:47:37 PM
County: SAN BERNARDINO
URL:
Notified Date: 12/17/1993
Year: 1993

California Hazardous Material Incident Report System (as of 1993 to 1996)

Contained:
Substance:
Type:
Incident Date: 1000/12-17-93
Injuries?: NO
Fatals?: NO

Qty:		***Evacs?:***	
Other:		***Cleanup:***	
Measure:		***Site:***	
Amount:		***City:***	
Water:		***County:***	SAN BERNARDINO
Water Way:		***Zip:***	
Location:	rialto lilac street		
Description:	passenger car derailment no injuries, no passengers on board train derailed while passing over switch		

Site: ***Kinder Morgan***
Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd. Adelanto CA

CHMIRS

Control No:		***Notified Date:***	12/20/2006 5:01
Notified Date Time:		***Year:***	2006
County:	San Bernardino County		
URL:			

California Hazardous Material Incident Report System (as of 2006 to 2015)

Contained:	Yes	***3 Ves >= 300 Tons:***	
1 Substance:	Jet Fuel	***Incident Date:***	12/20/2006
1 Measure:	Unknown	***Incident Time:***	429
1 Other:		***Spill Site:***	Pipe Line
1 Quantity:	Unk	***Injuries?:***	
1 Type:	PETROLEUM	***No of Injuries:***	0
1 Pipeline:		***Fatals?:***	
1 Vessel >= 300 Tons:		***No of Fatals:***	0
2 Substance:		***Evacs?:***	
2 Quantity:		***No of Evacs:***	0
2 Measure:		***Cleanup:***	Contractor
2 Type:		***Site:***	
2 Other:		***Cause:***	
2 Pipeline:		***Cause Other:***	
2 Vessel >= 300 Tons:		***Dog No:***	
3 Substance:		***Water:***	Yes
3 Quantity:		***Water Way:***	
3 Measure:		***City:***	Adelanto
3 Type:		***County:***	San Bernardino County
3 Other:		***Zip:***	
3 Pipeline:			
Admin Agency:	San Bernardino County Health Department		
Notification Area:	AA/CUPA,DFG-OSPR,DTSC,RWQCB,US EPA,USFWS,SFM		
Location:	Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd.		
Description:	Stain on the ground. Company has 35 miles of pipeline that was taken out of service and they are now filling it back up. A drip was noticed at the bottom of the valve coming out of body bleed. There is no substance standing on the ground, just a stain approx 3' in diameter on the ground Pipeline was shutdown at 0430. Pumping was resumed at 0450.		

Spill Report View

Amount 1:	Unk	***Creation Date:***	12/20/2006 05:01 AM
Amount 2:		***Received By:***	
Amount 3:		***Admin Agency:***	San Bernardino County Health Department
Type:		***Admin Agency 2:***	
Water:	PETROLEUM	***Additional County:***	
On Scene:		***Phone No:***	
Other on Scene:		***Ext:***	
Other Notified:		***Pag Cell:***	
Document Title:	SPILL Report		
Spill Site:			
Cause Desc for Other:			
Person Notifying Cal OES:			

OES Hazardous Materials Spill Update

Notify Date:	12/20/2006
Notify Time:	501
Occurrence Date:	12/20/2006

Occurrence Time:
Upd Known Impact:
Update Cause:
Pers Notifying Upd Place: Person Notifying Update
Pers Notifying Upd Nme:
Phone No:
Ext:
Pag Cell:
Fax Notifi List:
Person Notifying Cal OES Agenc:
Person Reporting Spill Agency:
Op Area:
Unknown Header:
Substance 1:
Qty Amount 1:
Measure 1:
Type 1:
Other 1:
Pipeline 1:
Vessel >= 300 Tons 1:
Substance 2:
Qty Amount 2:
Measure 2:
Type 2:
Other 2:
Pipeline 2:
Vessel >= 300 Tons 2:
Substance 3:
Qty Amount 3:
Measure 3:
Type 3:
Other 3:
Pipeline 3:
Vessel >= 300 Tons 3:
Administering Agency:
Secondary Agency:
Additional Counties:
Additional Admin Agency:
Other Notified:
RWQCB Unit:
Confirmation Request:
Fax Notification List 2:
Administering Agency 2:
Additional Admin Agency 2:
Secondary Agency 2:
Additional Counties 2:
DOG Unit:
RWQCB Unit 2:
Doc URL: https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/f13753cb1e9d29c58825724a00492502?OpenDocument
NRC:
Update Description:

Situation Update:

Report received from NRC #821539. This is a 6" pipeline.

Original Description:

OES Hazardous Materials Update Quantities

Amount:
Measure: Unknown

OES Hazardous Materials Spill Update

Notify Date: 12/20/2006
Notify Time: 501

Occurrence Date: 12/20/2006
Occurrence Time:
Upd Known Impact:
Update Cause:
Pers Notifying Upd Place: Person Notifying Update
Pers Notifying Upd Nme:
Phone No:
Ext:
Pag Cell:
Fax Notifi List:
Person Notifying Cal OES Agenc:
Person Reporting Spill Agency:
Op Area:
Unknown Header:
Substance 1:
Qty Amount 1:
Measure 1:
Type 1:
Other 1:
Pipeline 1:
Vessel >= 300 Tons 1:
Substance 2:
Qty Amount 2:
Measure 2:
Type 2:
Other 2:
Pipeline 2:
Vessel >= 300 Tons 2:
Substance 3:
Qty Amount 3:
Measure 3:
Type 3:
Other 3:
Pipeline 3:
Vessel >= 300 Tons 3:
Administering Agency:
Secondary Agency:
Additional Counties:
Additional Admin Agency:
Other Notified:
RWQCB Unit:
Confirmation Request:
Fax Notification List 2:
Administering Agency 2:
Additional Admin Agency 2:
Secondary Agency 2:
Additional Counties 2:
DOG Unit:
RWQCB Unit 2:
Doc URL: https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/266c26fcacb1f53c8825724a00493f49?OpenDocument
NRC:
Update Description:

Situation Update:

Original report indicates water involved, this is a typo, NO WATER INVOLVED>

Original Description:

OES Hazardous Materials Update Quantities

Amount:
Measure: Unknown

Site: ***CALNEV PIPE LINE COMPANY***
AIR BASE RD ADELANTO CA 92301

EMISSIONS

1995 Criteria Data

Facility ID:	200255	***CERR Code:***	
Facility SIC Code:	5171	***TOGT:***	4.5
CO:	36	***ROGT:***	4.5
Air Basin:	MD	***COT:***	
District:	MOJ	***NOXT:***	
COID:	SBD	***SOXT:***	
DISN:	MOJAVE DESERT AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

1995 Toxic Data

Facility ID:	200255	***COID:***	SBD
Facility SIC Code:	5171	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Site: ***AEROCHEM INC***
HCR BOX 80A EL MIRAGE RD ADELANTO CA

EMISSIONS

1987 Criteria Data

Facility ID:	700000246	***CERR Code:***	
Facility SIC Code:	3599	***TOGT:***	82.4
CO:	36	***ROGT:***	69.88344
Air Basin:	MD	***COT:***	
District:	MOJ	***NOXT:***	9
COID:	SBD	***SOXT:***	
DISN:	MOJAVE DESERT AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

1987 Toxic Data

Facility ID:	700000246	***COID:***	SBD
Facility SIC Code:	3599	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1990 Criteria Data

Facility ID:	700000246	***CERR Code:***	
Facility SIC Code:	3599	***TOGT:***	128
CO:	36	***ROGT:***	108.5568
Air Basin:	MD	***COT:***	1.2
District:	MOJ	***NOXT:***	9
COID:	SBD	***SOXT:***	
DISN:	MOJAVE DESERT AQMD	***PMT:***	.2
CHAPIS:		***PM10T:***	.18

1990 Toxic Data

Facility ID:	700000246	***COID:***	SBD

Facility SIC Code:	3599	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Site:

16800 ASTER RD ADELANTO CA 92301

ERNS

NRC Report No:	1171383	***Latitude Degrees:***	
Type of Incident:	FIXED	***Latitude Minutes:***	
Incident Cause:	UNKNOWN	***Latitude Seconds:***	
Incident Date:	2/18/2017 7:07:00 AM	***Longitude Degrees:***	
Incident Location:		***Longitude Minutes:***	
Incident Dtg:	OCCURRED	***Longitude Seconds:***	
Distance from City:		***Lat Quad:***	
Distance Units:		***Long Quad:***	
Potential Flag:	No	***Location Section:***	
Year:	Year 2017 Reports	***Location Township:***	
Direction from City:		***Location Range:***	
Location County:	SAN BERNARDINO		

Description of Incident: CALLER STATED THAT A TRANSFORMER CAUGHT FIRE AND WHEN FIRE DEPT ARRIVED TO PUT OUT THE FIRE, WATER MIXED WITH TRANSFORMER OIL ALLOWED IT TO RELEASE FROM THE TRANSFORMER ONTO THE GROUND. IT IS UNKNOWN AT THIS TIME IF THERE WAS AN IMPACT TO ANY STORM DRAIN OR WATERWAY. IT IS UNKNOWN IF THE OIL CONTAINED PCB.

Material Spill Information

Chris Code:	OTF	***Unit of Measure:***	UNKNOWN AMOUNT
CAS No:	000000-00-0	***If Reached Water:***	UNKNOWN
UN No:		***Amount in Water:***	0
Name of Material:	OIL, MISC: TRANSFORMER	***Unit Reach Water:***	UNKNOWN AMOUNT
Amount of Material:	0		

Chris Code:	PCB	***Unit of Measure:***	UNKNOWN AMOUNT
CAS No:	000000-00-0	***If Reached Water:***	UNKNOWN
UN No:		***Amount in Water:***	0
Name of Material:	POLYCHLORINATED BIPHENYLS	***Unit Reach Water:***	UNKNOWN AMOUNT
Amount of Material:	0		

Calls Information

Date Time Received:	2/18/2017 2:59:21 PM	***Responsible City:***	LOS ANGELES
Date Time Complete:	2/18/2017 3:07:52 PM	***Responsible State:***	CA
Call Type:	INC	***Responsible Zip:***	90744
Resp Company:	LOS ANGELES DEPT. OF WATER & POWER	***Source:***	TELEPHONE
Resp Org Type:	PUBLIC UTILITY		

Incident Information

Tank ID:		***Building ID:***	
Tank Regulated:	U	***Location Area ID:***	
Tank Regulated By:		***Location Block ID:***	
Capacity of Tank:		***OCSG No:***	
Capacity Tank Units:		***OCSP No:***	
Description of Tank:		***State Lease No:***	
Actual Amount:		***Pier Dock No:***	
Actual Amount Units:		***Berth Slip No:***	
Tank Above Ground:	ABOVE	***Brake Failure:***	U
NPDES:		***Airbag Deployed:***	U
NPDES Compliance:	U	***Transport Contain:***	U
Init Contin Rel No:		***Location Subdiv:***	
Contin Rel Permit:		***Platform Rig Name:***	
Contin Release Type:		***Platform Letter:***	
Aircraft ID:		***Allision:***	U

Aircraft Runway No:		***Type of Structure:***	
Aircraft Spot No:		***Structure Name:***	
Aircraft Type:		***Structure Oper:***	U
Aircraft Model:		***Transit Bus Flag:***	
Aircraft Fuel Cap:		***Date Time Norm Serv:***	
Aircraft Fuel Cap U:		***Serv Disrupt Time:***	
Aircraft Fuel on Brd:		***Serv Disrupt Units:***	
Aircraft Fuel OB U:		***CR Begin Date:***	
Aircraft Hanger:		***CR End Date:***	
Road Mile Marker:		***CR Change Date:***	
Power Gen Facility:	N	***FBI Contact:***	
Generating Capacity:		***FBI Contact Dt Tm:***	
Type of Fixed Obj:	TRANSFORMER	***Passenger Handling:***	
Type of Fuel:		***Passenger Route:***	XXX
DOT Crossing No:		***Passenger Delay:***	XXX
DOT Regulated:	U	***Sub Part C Test Req:***	XXX
Pipeline Type:		***Conductor Test:***	
Pipeline Abv Ground:	ABOVE	***Engineer Test:***	
Pipeline Covered:	U	***Trainman Test:***	
Exposed Underwater:	N	***Yard Foreman Test:***	
Railroad Hotline:		***RCL Operator Test:***	
Railroad Milepost:		***Brakeman Test:***	
Grade Crossing:	U	***Train Dispat Test:***	
Crossing Device Ty:		***Signalman Test:***	
Ty Vehicle Involved:		***Oth Employee Test:***	
Device Operational:	U	***Unknown Test:***	

Incident Details Information

Release Secured:	Y	***State Agen Report No:***	
Release Rate:		***State Agen on Scene:***	FIRE DEPT.
Release Rate Unit:		***State Agen Notified:***	
Release Rate Rate:		***Fed Agency Notified:***	
Est Duration of Rel:		***Oth Agency Notified:***	
Desc Remedial Act:	HAZMAT TEAM ON SITE FOR CLEAN UP AND DETERMINE IF ANY IMPACT TO A STORM DRAIN OR WATERWAY EXISTS.	***Body of Water:***	
Fire Involved:	Y	***Tributary of:***	
Fire Extinguished:	Y	***Near River Mile Make:***	
Any Evacuations:	N	***Near River Mile Mark:***	
No Evacuated:		***Offshore:***	N
Who Evacuated:		***Weather Conditions:***	
Radius of Evacu:		***Air Temperature:***	
Any Injuries:	N	***Wind Direction:***	
No. Injured:		***Wind Speed:***	
No. Hospitalized:		***Wind Speed Unit:***	
No. Fatalities:		***Water Supp Contam:***	U
Any Fatalities:	N	***Water Temperature:***	
Any Damages:	N	***Wave Condition:***	
Damage Amount:		***Current Speed:***	
Air Corridor Closed:	N	***Current Direction:***	
Air Corridor Desc:		***Current Speed Unit:***	
Air Closure Time:		***EMPL Fatality:***	
Waterway Closed:	N	***Pass Fatality:***	
Waterway Desc:		***Community Impact:***	
Waterway Close Time:		***Passengers Transfer:***	NO
Road Closed:	N	***Passenger Injuries:***	
Road Desc:		***Employee Injuries:***	
Road Closure Time:		***Occupant Fatality:***	
Road Closure Units:		***Sheen Size:***	
Closure Direction:		***Sheen Size Units:***	
Major Artery:	No	***Sheen Size Length:***	
Track Closed:	N	***Sheen Size Length U:***	
Track Desc:		***Sheen Size Width:***	
Track Closure Time:		***Sheen Size Width U:***	
Track Closure Units:		***Sheen Color:***	
Track Close Dir:		***Dir of Sheen Travel:***	
Media Interest:	UNKNOWN	***Sheen Odor Desc:***	
Medium Desc:	LAND	***Duration Unit:***	
Addl Medium Info:	ASPHALT	***Additional Info:***	

Site: ***EL MIRAGE RECREATIONAL AREA***
N OF EL MIRAGE RD, W OF INTER. ADELANTO CA 000000000

HAZNET

SIC Code:		***Mailing City:***	BARSTOW
NAICS Code:		***Mailing State:***	CA
EPA ID:	CAL000093534	***Mailing Zip:***	923110000
Create Date:	1/3/1995	***Region Code:***	4
Fac Act Ind:	No	***Owner Name:***	U S DEPT OF INTERIOR, BUREAU
Inact Date:	6/30/1996	***Owner Addr 1:***	OF LAND MGMT
County Code:	36	***Owner Addr 2:***	
County Name:	San Bernardino	***Owner City:***	--
Mail Name:		***Owner State:***	99
Mailing Addr 1:	150 COOLWATER LANE	***Owner Zip:***	--
Mailing Addr 2:		***Owner Phone:***	0000000000
Owner Fax:			

Contact Information

--	--
Contact Name:	DEACT PER VQ96INT SUPV
Street Address 1:	--
Street Address 2:	
City:	--
State:	99
Zip:	--
Phone:	6193884361
--	--

Site: ***1X LEWIS HOMES OF CALIF***
10440 VERBENA ADELANTO CA 923010000

HAZNET

SIC Code:		***Mailing City:***	UPLAND
NAICS Code:		***Mailing State:***	CA
EPA ID:	CAC000654552	***Mailing Zip:***	917850000
Create Date:	11/18/1991	***Region Code:***	4
Fac Act Ind:	No	***Owner Name:***	LEWIS HOMES OF CALIF
Inact Date:	10/25/2000	***Owner Addr 1:***	--
County Code:	36	***Owner Addr 2:***	
County Name:	San Bernardino	***Owner City:***	--
Mail Name:		***Owner State:***	99
Mailing Addr 1:	--	***Owner Zip:***	--
Mailing Addr 2:		***Owner Phone:***	0000000000
Owner Fax:			

Contact Information

--	--
Contact Name:	MIMI RAYAL PROJ MNGR
Street Address 1:	--
Street Address 2:	
City:	--
State:	99
Zip:	--
Phone:	7149467547
--	--

Site: ***DM GILLILAN***
P.O. BOX 833 CRIPPEN ADELANTO CA 92301

HHSS

County:	San Bernardino
Pdf File Url:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029f3d.pdf

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Site: ***GEORGE AIR FORCE BASE***
AIR BASE RAD, GEORGE AIR FORCE ADELANTO ROAD ADELANTO CA 92392

HHSS

County:	San Bernardino
Pdf File Url:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029b34.pdf

Site: ***GEORGE AIR FORCE BASE***
AIR BASE RAD, GEORGE AIR FORCE ADELANTO CA

HIST TANK

Owner Name:	CALNEV PIPE LINE COMPANY	***No of Containers:***	2
Owner Street:	412 HOSPITALITY LANE	***County:***	SAN BERNARDINO
Owner City:	SAN BERNARDINO	***Facility State:***	CA
Owner State:	CA	***Facility Zip:***	92392
Owner Zip:	92408		

Site:
US HWY 395 ADELANTO CA

HMIRS

Incident County: SAN BERNARDINO

HMIR Incident Reports

Report No:	I-1989110571	***Fed DOT Agency Nm:***	
Report Type:	A hazardous material incident	***Fed DOT Report No:***	
Date of Incident:	10/30/1989	***Report Submit Src:***	Paper
Time of Incident:	0650	***Inc Multiple Rows:***	No
Haz Class Code:	5.1	***Inc Non US State:***	
Hazardous Class:	OXIDIZER	***Mode Transport:***	Highway
Commodity Short Nm:	AMMONIUM NITRATE FERTILI	***Transport Phase:***	IN TRANSIT
Commodity Long Nm:	AMMONIUM NITRATE FERTILIZERS	***Incident Occrrnce:***	
Trade Name:		***Mat Ship Approval?:***	No
ID No:	UN2067	***Mat Ship Approv No:***	
Haz Waste Ind:	No	***Undecl Hazmat Ship?:***	No
Haz Waste EPA No:		***Packaging Type:***	Portable Tank
HMIS Tox Inhalation?:	No	***Packing Group:***	
TIH Hazard Zone:		***Carrier Reporter:***	T & T TRUCKING INC.
Qty Released:	2780	***CR Street Name:***	11396 N HWY 99
Unit of Measure:	SLB	***CR City:***	LODI
What Failed:	;	***CR State:***	CA
What Failed Desc:	;	***CR Postal Code:***	95240-6899
How Failed Code:	;	***CR Non US State:***	
How Failed Desc:	;	***CR Fed DOT ID:***	216337
Failure Cause Code:	531; 537	***CR Hazmat Reg ID:***	
Failure Cause Desc:	Rollover Accident; Vehicular Crash or Accident Damage	***CR Country:***	US
Ident. Markings:		***Shipper Name:***	FRENCH CAMP WAREHOUSE
Cont1 Pkging Type:		***Shipper Street Name:***	8858 S PRIEST RD
Cont1 Const Mat:		***Shipper City:***	FRENCH CAMP
Cont1 Head Type:		***Shipper State:***	CA
Cont1 Pkg Capacity:		***Shipper Postal:***	95231
C1 Capacity UOM:		***Shipper Non US St:***	
Cont1 Pkg Amt:		***Shipper Country:***	US
C1 Pkg Amt UOM:		***Shipper Waybill:***	
Cont1 Pkg No:	1	***Ship Hazmat Reg ID:***	
C1 Pkg NO Failed:	1	***Origin City:***	FRENCH CAMP
Cont1 Pkg Mnfctr:	NOT REPORTED BY CARRIER	***Origin State:***	CALIFORNIA
Cont1 Pkg Mnfct Dt:		***Origin Postal:***	95231
Cont1 Pkg Serial NO:		***Origin Non US St:***	
C1 Pkg Last Test Dt:		***Origin Country:***	US
C1 Test Const Mat:		***Destination City:***	LAGUNA HILLS
C1 Pkg Dsign Pres.:		***Destination State:***	CALIFORNIA
C1 Dsign Press UOM:		***Destination Postal:***	
C1 Pkg Shell Thick:		***Destination Non US:***	
C1 Shell Thick UOM:		***Destination Country:***	US
C1 Head Thickness:		***Cont2 Package Type:***	
C1 Head Thick UOM:		***Cont2 Const Mat:***	
C1 Pkg Srvc Pres.:		***Cont2 Pkg Capacity:***	
C1 Srvc Press UOM:		***Cont2 Capacity UOM:***	
C1 Valve/Device Fail?:	No	***Cont2 Pkg Amount:***	
C1 Device Type:		***Cont2 Pkg Amt UOM:***	
C1 Device Mnfctr:		***Cont2 Pkg No:***	

C1 Device Model:		***Cont2 Pkg No Failed:***	
NRC No:			
RAM Pkg Category:		***Haz NonHosp Public:***	0
RAM Pkg Cert.:	FALSE	***Haz NonHosp Old:***	0
RAM Pkg Cert. NBR:		***Tot Haz Non Hosp Inj:***	0
RAM Nuclide S:		***Total Hazmat Injuries:***	0
RAM Transport Index:		***Evacuation Indicator:***	No
RAM UOM:		***Public Evacuated:***	0
RAM Activity Rpted:		***Employees Evac:***	0
RAM UOM Rpted:		***Total Evacuated:***	0
RAM Activity:		***Total Evacuation Hrs:***	0
RAM Activity UOM:		***Major Artery Closed:***	No
RAM Mat Safety:		***Mjr Artery Hrs Closed:***	0
Spillage Result:	Yes	***Material Involved:***	Yes
Fire Result:	No	***Estimated Speed:***	40
Explosion Result:	No	***Weather Conditions:***	
Water Sewer Result:	No	***Vehicle Overturn:***	No
Gas Dispersion:	No	***Vehicle Left Roadway:***	No
Environment Damage:	No	***Passenger Aircraft:***	No
No Release Result:	No	***Cargo Baggage:***	
Fire EMS Report:	No	***Ship Non Transport:***	No
Fire EMS EMS Report:		***Ship Air First Flight:***	No
Police Report:	No	***Ship Air Subflight:***	No
Police Report No:		***Ship Init Transport:***	No
In House Cleanup:	No	***Ship Phase Transfer:***	No
Other Cleanup:	No	***Contact Name:***	DAN BADGER
Damage > 500:	No	***Contact Title:***	D.O.T. SUPERVISOR
Material Loss:	232	***Contact Business:***	
Carrier Damage:	0	***Contact Street:***	
Property Damage:	0	***Contact City:***	
Response Cost:	0	***Contact State:***	
Remediation Cost:	0	***Contact Postal:***	
Damage Old Form:	0	***Contact Non US St:***	
Total Damages Amt:	232	***Contact Country:***	US
Hazmat Fatality:	No	***Inc. Report Prepared:***	
Haz Fatal Employees:	0	***HMIS Serious Incidnt:***	Yes
Haz Fatal Respndrs:	0	***HMIS Serious Fatality:***	No
Haz Fatal Gen Public:	0	***HMIS Serious Injury:***	No
Tot Hazmat Fatalities:	0	***HMIS Flight Plan:***	No
Non Hazmat Fatality:	No	***HMIS Serious Evacs:***	No
Non Hazmat Fatals:	0	***HMIS Major Artery:***	No
Hazmat Injury:	No	***HMIS Bulk Release:***	Yes
Haz Hospital Empl:	0	***HMIS Marine Pollutnt:***	No
Haz Hospital Resp:	0	***HMIS Radioactive:***	No
Haz Hosp Gen Public:	0	***HMIS Gen Pkg Type:***	OHMIR.Ref_Container.descr_txt
Haz Hosp Old Form:	0	***HMIS Container Code:***	TANK TRL
Total Haz Hosp Inj:	0	***HMIS Container Desc:***	Tank trailer semi-trailer or full trailer (two axles)
Haz Non Hosp Empl:	0	***HMIS Bulk Incident:***	Yes
Haz Non Hosp Resp:	0	***Undeclared Shipment:***	No

Description of Events: THE ACCIDENT WAS DUE TO DRIVER NEGLECT. THE DRIVER FAILED TO PERFORM ADEQUA TE PRE-TRIP INSPECTION. THE BREAKS WERE OUT OF ADJUSTMENT AND THE AIR VALVE WAS HUT OFF TO THE REAR OF TRAILER. THUS WHEN FORCED TO TRY AND STOP SUDD ENLY DUE TO TRAFFIC CONDITIONS THE TRAILERS JACKNIFED CAUSING AN OVERTURN THE SPILLED AMMONIUM NITRATE WAS CLEANED UP BY CAL-TRANS.

Recommend Actions Taken:

Site: ***SCE Roadway Substation***
Lawson AVE Adelanto CA 92301

SANBERN CUPA

Facility ID:	FA0000324
Owner Info:	Southern California Edison
Mailing Care of:	
Mailing Address 1:	P.O. Box 5085 (Attn: ESD, Programs & Governance)
Mailing Address 2:	
Mailing City:	Rosemead
Mailing State:	CA
Mailing Zip:	91770

Detail(s)

Permit ID: PT0019975
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 2/28/2014

Permit ID: PT0000406
Status: ACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 2/28/2020

Permit ID: PT0019974
Status: ACTIVE
Program Element Code: 4030
Permit Desc: APSA EXEMPT
To: 2/28/2020

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Apr 11, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Apr 11, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Apr 11, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Apr 11, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Apr 11, 2019

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jun 3, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Jun 3, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jun 3, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jun 3, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jun 3, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jun 3, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 20, 2018

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Sep 20, 2018

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 11, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 17, 2018

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Apr 11, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Apr 11, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Jun 14, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Jun 14, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Jun 14, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: May 13, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Jun 14, 2019

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Apr 10, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Apr 17, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Jul 16, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: May 1, 2019

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Jun 17, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Jun 12, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Jun 14, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Apr 17, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Apr 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Jun 14, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Apr 17, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: May 6, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

County

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Jul 24, 2019

San Bernardino County - CUPA List: SANBERN CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in San Bernardino County. This list is made available by San Bernardino County Fire Department which is the CUPA for all areas of the County except the city of Victorville.

Government Publication Date: Jul 17, 2019

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Apr 23, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Jul 18, 2018

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).
Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA
The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.
Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN
An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP
An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP
Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.
Government Publication Date: Jun 11, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER
The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.
Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS
The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.
Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS
A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.
Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY
List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).
Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 30, 2018

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Apr 8, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Sep 1, 2018

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0l013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

Government Publication Date: Jul 12, 2019

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Apr 23, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 19, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Jun 14, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Apr 2, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Apr 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Apr 10, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Jun 30, 2018

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Eric St. Michel

Staff Scientist

PROFESSIONAL EXPERIENCE

Eric is a staff scientist in Terracon's Tustin, CA office. In this office, Eric helps prepare Phase I Environmental Site Assessment (ESA) reports. These efforts involve field survey, interviews with property owners, groundwater well surveys, Environmental Data Resource reports and file reviews at local county and city regulatory offices. As required, each ESA is prepared and finalized in accordance with new ASTM Standards. HIS experience ranges from undeveloped land to large scale industrial and commercial properties.

PROJECT EXPERIENCE

Vacant Land - California
Performed site reconnaissances, and worked as a Project Manager on Environmental Site Assessments for vacant land properties.

Undeveloped Land - California
Performed site reconnaissances, and worked as a Project Manager on Environmental Site Assessments for undeveloped land properties.

Commercial Properties - California
Performed site reconnaissances, and worked as a Project Manager on Environmental Site Assessments for commercial properties.

Retail Properties - California
Performed site reconnaissances, and worked as a Project Manager on Environmental Site Assessments for retail properties.

EDUCATION

Bachelor of Science,
Environmental Science, 2012
University of California, Irvine, CA

Masters of Science,
Environmental Studies, 2016
California State University, Fullerton, CA

WORK HISTORY

Terracon Consultants, Inc.,
Staff Scientist,
May 2019 - Present

Intertek/PSI, Staff Scientist,
2016-2019

Gannet-Fleming, Staff Scientist, 2012 - 2014

Clifford Nale, L.G., P.G.

SENIOR PROJECT MANAGER

PROFESSIONAL EXPERIENCE

Mr. Nale is a Senior Project Manager with Terracon's Seattle (Mountlake Terrace) office. His duties include the management of all phases of environmental site assessments (ESAs), business environmental risk reviews, site characterizations, and National Environmental Policy Act (NEPA) compliance assessments for wireless telecommunications providers. He also performs technical review of all environmental service projects in the Seattle office.

Over the course of his 24 years of professional environmental experience, Mr. Nale has performed site characterizations of soil and groundwater for regulatory compliance, and for remediation design projects throughout Washington, Oregon, California, Nevada and Arizona.

PROJECT EXPERIENCE

Environmental Site Assessments (ESAs)
Mr. Nale has managed and performed hundreds of ESAs throughout Washington, Oregon, California, Nevada, and Arizona for industrial, commercial, residential, and agricultural properties. He has managed projects for financial institutions, real estate investment trusts, developers, and other real property owners. Mr. Nale fully understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water, and groundwater. He has extensive experience and expertise in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined by this rule.

Limited Subsurface Investigations (LSIs)
Mr. Nale has managed and performed hundreds of LSIs throughout Washington, Oregon, California, and Nevada. He has investigated environmental conditions in soils, soil vapor, and groundwater due to releases from a variety of sources, including gasoline service stations, dry cleaners, and a wide range of industrial and manufacturing facilities.

Remedial Investigation/Remedial Action
Mr. Nale has managed numerous Remedial Investigation (RI) and Remedial Action (RA) projects in Washington State, either through an Independent Remedial Action or in coordination with the Washington State Department of Ecology's Voluntary Cleanup Program (VCP). He has expertise in the collection and interpretation of data to pursue closure through Washington's VCP program. Mr. Nale has provided oversight on RA projects utilizing cleanup remedies, including in-situ chemical oxidation, the installation of granular-activated carbon, and large-scale dig-and-haul methods on a variety of industrial and commercial properties.

EDUCATION
Bachelor of Science, Engineering Geology, University of California, Los Angeles, CA

REGISTRATIONS
Licensed Professional Geologist: Washington No. 1143; California No. 2720

REGISTRATIONS
OSHA 40-Hour Health & Safety
OSHA Hazardous Waste Site Supervisor/Health and Safety Officer

WORK HISTORY
Terracon Consultants, Inc., Senior Project Manager, 2018 – Present

Resumes

Islam (Sami) R. Noaman, EIT

Senior Associate / Senior Project Manager



PROFESSIONAL EXPERIENCE

Mr. Noaman is an Environmental Department Manager with track record in client management, management of phases of environmental site assessments (ESAs), industrial hygiene services, business environmental risk reviews, site characterizations, regulatory compliance services, and remedial investigation. He possesses excellent analytical, problem solving, advisory, and team management skills.

PROJECT EXPERIENCE

Stormwater Prevention and Pollution Control Plan (SWPPP):
Managed SWPPP for numerous industrial sites in Southern California. Scope of the work typically included client and agency coordination, implementation of guidelines required by the state of California Water Resources Board (SWRB), and preparation of documentations for submittals to the SWRB. In addition, I have managed several limited regulatory compliance projects (annual submittals and Level 1 ERA reporting) for industrial stormwater, to achieve compliance in accordance with the NPDES general permit requirements.

Limited Subsurface Investigations (LSIs):
Performed and managed hundreds of LSIs in California, New Jersey, and New York. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data to pursue closure through state and federal programs including Los Angeles County Site Mitigation Unit, the California Regional Water Quality Control Board, and the Department Of Toxic Substances Control Voluntary Cleanup Programs (VCP).

Hazardous Materials Surveys:
Mr. Noaman is the Industrial Hygiene Manager in the Orange County, California office. He managed numerous hazardous materials surveys in the state of california including, but not limited to, asbestos, lead in paint, mold, pcbs, and mercury-containing equipment.

EDUCATION

Bachelor of Science, Chemistry/Environmental Chemistry, 2002, City University of New York, City College of New York

Pursuing Masters in Environmental Engineering (California State University Fullerton-expected graduation date Spring 2019)

CERTIFICATIONS

Certified Engineer In Training (CA) Certification No. EIT 171371
40-Hour OSHA Hazardous Waste Operations & Emergency Response Training Course

WORK HISTORY

Terracon Consultants, Inc. (Irvine, CA), Environmental Group/Department Manager, June 2012 to Present

Smith Emery GeoServices (SEG), (Los Angeles, CA), Project Engineer, August 2008 to June 2012

KLK Environmental Group LLC. (Kearny, NJ). Environmental Scientist -August 2003 to June 2008

UniChem Inc. (Kearny, NJ). Staff Environmental Chemist - August 2002 to June 2003

Islam (Sami) R. Noaman, EIT (continued)

Major Department Store Commercial Retail Portfolio:
Environmental team lead for evaluating environmental site conditions and due diligence review, including overseeing Phase I Environmental Site Assessments and Phase II Environmental Site Investigations for over thirty retail facilities with automotive maintenance across California. Findings from subsurface investigations were used to support regulatory closure of select facilities to facilitate a real estate transaction across the United States.

Industrial Facility – Land-use Change/Private School, Los Angeles, CA:
Environmental consulting services including Phase I Environmental Site Assessments (ESA) due diligence support, subsurface investigation activities to evaluate environmental media including soil, soil gas and indoor / outdoor air. Services included a land-use change from an industrial facility to a private school. Prepared environmental investigation reports, regulatory interaction, corrective action design for indoor air mitigation, and work plan for management of environmental media.

Retail Shopping Center – Former Dry Cleaners Facility – DTSC, Fremont, CA:
Conducted extensive site investigation activities to evaluate the magnitude and extent of chlorinated solvents identified in the vicinity of a former dry cleaners facility, including an evaluation of groundwater, soil, soil-gas and indoor vapors as a result of a chlorinated solvent plume. Project responsibilities consisted of direct support and interaction with client, client legal team and DTSC representatives to manage the closure process, including the preparation of work plans and environmental investigation reports, risk-based human health evaluation, and response actions.

Underground Storage Tank Assessment and Monitoring – West Los Angeles, CA:
Assisted property owner with the regulatory closure of former underground storage tank (UST) site located in West Los Angeles, California. The project scope included historical research of past site use and site characterization, including soil, groundwater and soil gas assessments, followed by groundwater monitoring until closure was achieved.

Automated Fuel Dispensing Facilities – Camp Pendleton, California:
Project scope included environmental and geotechnical investigations at six fueling existing/proposed facilities within Camp Pendleton, California. The project consisted of construction of new buildings, canopies, pavements, retaining walls, slopes, and installation of underground storage tanks (USTs), and other site facilities. Served as the environmental group leader.

Emerson College, Hollywood, California:
Conducted comprehensive investigation and assisted the client through enrolling and interacting with the LAFD regarding USTs found during construction activities. Provided construction management oversight to manage impacted soils and assisted the client in waste disposition, permitting and regulatory compliance interaction. A total of 45,000 cubic yards of soil was removed from the site and disposed at an off-site facility, prior to the construction of a mid-rise school complex. Support services allowed for significant savings in construction, on an expedited timeline in concert with the construction schedule.

Los Angeles Unified School District (LAUSD Sites):
Managed soil characterization for export/import soils for over nine Los Angeles Unified School District (LAUSD) sites. Prepared Sample Strategy Plans (SSP) for stockpiled and in-place soils, oversaw the sampling, and prepared soil certification reports under the supervision of a professional geologist for submittal to the LAUSD Office of Environmental Health.

Islam (Sami) R. Noaman, EIT (continued)

Newton Plastics, Newton, NJ:

Managed the removal of two 12,000-gallon (solvents & gasoline containing) USTs from a plastic products manufacturing facility as a part of transaction deal. Project tasks included, work plan preparation, regulatory officials interface, client contact/coordination, oversight of removal activities, and report preparation. No further action letter from NJDEP was obtained for the client. The property value was retained for the client with our consulting services.

Eagle Electric, Queens, NY:

Responsibilities were to manage the cleanup of former Coal storage rooms in basement of a landmark building in Queens, NY. The cleanup activities included, hauling of approximately 425 tons of Class N-1 Hazardous materials, managed and ensured safety of eight to twelve crew, handling of waste manifests, and coordination for transportation / disposal and client interface.

AROL Chemicals, Newark, NJ:

Managed Phase I and Phase II ESA of chemical manufacturing facility. Scope of Phase II ESA included, the removal of three 12,000-gallon USTs, excavation and disposal of impacted soils.

KeySpan Energy, NY:

Responsibilities include inspection and maintenance of client boilers and tanks systems. Objectives were to prevent scaling/rusting in the boiler systems resulting from the plant operations to maintain operations efficiency. Goals were achieved for the client by developing environmentally friendly chemical reagents (pH controlled) to mitigate the concerns at the plant, boilers maintenance issues were resolved and steady business was created for the company.

The HACH Company, OH:

Implementing unique techniques producing Ferrozine - Iron- reagent for determining trace levels of iron in chemical reagents and glycols. Ferrozine can also be used to analyze samples containing magnetite (black iron oxide) or ferrites.

KIWA of The Netherlands:

Research and development of new synthetic methods of alkali Ferrates including, Potassium, Sodium, and Barium ferrates, an environmentally friendly oxidative reagents used in wastewater treatment for municipal and industrial facilities.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	*Description*
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally exempt small quantity generators.
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large quantity generators.
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	Pico Curies per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in Pico Curies per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1)due to any release to the environment; 2) under conditions indicative of a release to the environment. *De minimis* conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small quantity generator.
SWF/LF	State and/or Tribal database of solid waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water 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. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates "waters of the US," also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix E PHASE I ENVIRONMENTAL SITE ASSESSMENTS

E.2 PHASE I ENVIRONMENTAL SITE ASSESSMENT BALDY MESA SOLAR PHASE II SITE 1



Phase I Environmental Site Assessment

Baldy Mesa Solar Phase II – Site 1

APN: 046018421

Adelanto, San Bernardino County, California

December 18, 2019

Terracon Project No. 60197507.1



Prepared for:
Sustainable Power Group, LLC (sPower)
Long Beach, California

Prepared by:
Terracon Consultants, Inc.
Tustin, California

December 18, 2019

Sustainable Power Group, LLC (sPower)
5000 East Spring Street, Suite 130
Long Beach, CA 90815

Attn: Mr. Dallas Pugh
P: (562) 348-1119
E: dallas.pugh@spower.com

Re: **Phase I Environmental Site Assessment**
Baldy Mesa Solar Phase II – Site 1
APN: 046018421
Adelanto, San Bernardino **County**, California 92301
Terracon Project No. 60197507.1

Dear Mr. Pugh:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed **information on all of Terracon's** services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Jennifer S. Van
Environmental Group Manager

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

for Fabio M. Minervini, P.G.
California Licensed Geologist No. 7861

Attachments

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APPENDICES

APPENDIX A Exhibit 1 - Topographic Map, Exhibit 2 - Site Diagram

APPENDIX B Site Photographs

APPENDIX C Historical Documentation and User Questionnaire

APPENDIX D Environmental Database Information

APPENDIX E Credentials

APPENDIX F Description of Terms and Acronyms

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Jennifer S. Van and Meg Haile performed the site reconnaissance on November 26, 2019.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is located approximately 320 feet west of the intersection of Highway 395 and Desert Flower Road in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Number (APN): 046018421). The site consists of approximately 80 acres of undeveloped land with an unimproved road running through the northeastern portion of the site and two unimproved roads running through the southwestern portion of the site. At the time of reconnaissance, the site was unoccupied.

Historical Information

Based on review of historical information the site consisted of undeveloped land with an unnamed creek running through the southwestern portion of the site from as early as 1948 through the late 1960s, in the mid-2000s the site consisted of additional trails and an unimproved road from the northern extending to the eastern of the southern portion of the site.

The surrounding properties consisted of undeveloped land, unnamed creek adjoining to the southwest and southeast, and US Highway 395 east of the site from as early as 1948 through the present. Addition trails and unimproved roads were apparent to the north and southeast of the site in the mid-2000s through the present.

Records Review

Terracon reviewed selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies. The site was not identified on the regulatory database. The report listed nine facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties, and do not appear to represent recognized

environmental conditions (RECs) to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Site Reconnaissance

During the site reconnaissance, Terracon observed buried fiber optic cable markers, high pressure gas pipeline markers (associated with the Kern Transmission Co.), approximately three cubic yards of trash and debris and three cubic yards of construction demolition debris, consisting of concrete and wood. Recognized environmental conditions (RECs) were not identified.

Based on a review of the National Pipeline Mapping System (NPMS), there is a gas transmission pipeline that runs parallel to Highway 395, located approximately 320 feet to the east of the site. The pipelines are not listed in the regulatory database and a release was not identified in the regulatory review. Based on the absence of reported releases and regulatory status, the off-site identified pipelines do not represent a REC to the site.

Adjoining Properties

The property to the east of the site consisting of undeveloped land followed by US Highway 395. Desert Flower Road (unimproved road) abuts the site to the north followed by undeveloped land. Undeveloped land. The south-adjoining property consists of an unimproved road and undeveloped land. The property to the adjoining west consists of two unimproved roads and undeveloped land.

Significant Data Gaps

Significant data gaps were not identified.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-13 of Baldy Mesa Solar – Site 1 located at approximately 320 feet west of the intersection of Highway 395 and Desert Flower Road in Adelanto, San Bernardino County, California 923001 (San Bernardino County Accessor Parcel Number (APN): 046018421). RECs or Controlled RECs (CREC) were not identified in connection with the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this site assessment, Terracon did not identify RECs in connection with the site. As such, no additional investigation is recommended at this time.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Baldy Mesa Solar Phase II – Site 1
Site Location/Address	Approximately 320 feet west of the intersection of Highway 395 and Desert Flower Road in Adelanto, San Bernardino County, California 923001 (APN: 046018421)
Land Area	Approximately 79.9 Acres
Site Improvements	None
Anticipated Future Site Use	Commercial use; Solar Farm
Purpose of the ESA	Developing the Site

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.” By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- At the issuance of this report, a response has not been received from the Adelanto City Clerk and Mojave Desert Air Pollution Control District, Based on a review of the historical information and the regulatory database, the absence of these responses do not represent a data gap to the site.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Sustainable Power Group, LLC (sPower). Use or reliance by any other party is prohibited without the written authorization of Sustainable Power Group, LLC (sPower) and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Mr. Dallas Pugh, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 2,740 feet above sea level	USGS Topographic Map, Victorville NW and Adelanto California, 1993 Map (Appendix A)
Topographic Gradient	Towards the north-northwest	
Closest Surface Water	Freemont Wash, approximately 0.5 mile west of the site.	
Soil Characteristics		
Soil Type	Cajon Sand 2 to 9 Percent Slopes	San Bernardino County, California, Mojave River Area (CA671) Dated September 17, 2019
Description	Landform: Alluvial fans. Parent material: Alluvium derived from mixed sources. Natural drainage class: somewhat excessively drained. A – 0 to 6 inches: sand; C1 – 6 to 25 inches: sand; C2 – 25 to 60 inches: gravelly sand, stratified gravelly sand to sand.	
Geology/Hydrogeology		
Formation	Q, Quaternary Deposits	

Physical Setting Information		Source
Description	Alluvium lake, playa and terrace deposits. Unconsolidated and semi-consolidated	California Department of Conservation, Geologic Map of California, Dated 2010
Estimated Depth to First Occurrence of Groundwater	Approximate depth to groundwater in the region is approximately 144 feet below grade surface (bgs), reported at a site located approximately 160 feet north of the site.	GeoTracker Field Point ADS-7 5 Miles North of Adelanto Adelanto, California 92301 CIWQS Facility Place ID 204472
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the north-northwest).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15 year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from ERIS to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic maps:
  - Victorville, California published in **1956** (1:62,500)
  - Victorville, North West California published in **1956, 1968, 1993, and 2015 (1:24,000)**
- Aerial photographs:
  - USAF, **1948,** 1”=500’
  - USGS, **1952, 1968, 1978**, and **1995,** 1”=500’
  - ASCS, **1959,** 1”=500’

- NHAP, **1985,** 1"=500'
- NAIP**, 2005, 2010, 2012**, and **2018,** 1"=500'

Historical Maps and Aerial Photographs

Direction	Description
Site	Undeveloped land with unnamed creek through south western portion of the site (1948-1959); unimproved road in northeastern and southwestern portions of site (1968-2018).
North	Undeveloped land with unimproved road adjacent to site (1948-1959); unimproved road (1968-1995); developed with residential property to the northeast (2005-2018).
East	Undeveloped land with US Highway 395 running parallel to the site and unimproved road running perpendicular to the site (1948-1995); developed with residential property to the northeast (2005-2018).
South	Undeveloped land (1948-1952); unimproved road (1959-2018).
West	Undeveloped land with a unimproved road running perpendicular to the site (1948-2018)

3.2 Historical City Directories

City directory reviews were conducted by ERIS and address listings were not identified at the site or surrounding properties.

3.3 Site Ownership

Based on a review of the Stewart Title – Preliminary Report, dated May 1, 2019 and information provided by client, Mr. Dallas Pugh, the current owner is Annie Choie-Wagner and Shin Chung.

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

Based on a review of a title report provided by the client, Stewart Title – Preliminary Report, dated May 1, 2019 the current owner is listed as Annie Choie-Wagner and Shin Chung.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance

of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individual was interviewed regarding the current and historical use of the site.

Interviewee

Interviewer	Name / Phone #	Title	Date/Time
Jennifer Van	Mr. Dallas Pugh / 562-348-1119	sPower - Permitting Manager	November 11, 2019

Terracon interviewed Mr. Dallas Pugh on November 11, 2019. Mr. Pugh indicated that to his knowledge:

- The site is undeveloped land and he is not aware of on-site operations.
- Illegal dumping has taken place on the site and surrounding vicinity.
- Utility pipelines are running through the site
- The area is known to be occupied by the Desert Tortoise, Mojave Ground Squirrel, Burrowing Owl, American Badger and Kit Foxes.

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERC	Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS	0.5	0
CERL	CERCLIS Liens	Site	0
CNFR	CERCLIS - No Further Remedial Action Planned	0.5	0
EC	Federal Engineering Controls-ECs	0.5	0
ERN1	Emergency Response Notification System	Site	0
ERN2	Emergency Response Notification System	Site	0
ERNS	Emergency Response Notification System	Site	0
FBFL	The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database	0.5	0
FRS	Facility Registry Service/Facility Index	Site	0
HMIR	Hazardous Materials Information Reporting System	0.10	0
HTSC	Hist TSCA	0.10	0
IC	Federal Institutional Controls- ICs	0.5	0
IODI	EPA Report on the Status of Open Dumps on Indian Lands	0.5	0
NCDL	National Clandestine Drug Labs	Site	0
NPL	National Priority List	1.0	0
NPLD	Delisted NPL	0.5	0
NPLP	National Priority List - Proposed	1.0	0
ODI	Inventory of Open Dumps, June 1985	0.5	0
RCOR	RCRA CORRACTS- Corrective Action	1.0	0
RGEN	RCRA Generator List	0.25	0
RNGN	RCRA Non-Generators	0.25	0
RTSD	RCRA non-CORRACTS TSD Facilities	0.5	0
TRI	Toxics Release Inventory (TRI) Program	Site	0
TSCA	Toxic Substances Control Act	0.10	0

State/Tribal 0Databases

Database	Description	Distance (miles)	Listings
AST	Aboveground Storage Tanks	0.25	0
CDL	Clandestine Drug Lab Sites	0.10	0

Database	Description	Distance (miles)	Listings
CHMR	California Hazardous Material Incident Report System (CHMIRS)	Site	0
DEED	Deed Restrictions and Land Use Restrictions	0.5	0
ENVS	EnviroStor Database	1.0	0
GTCL	GeoTracker Cleanup Sites Data	0.5	0
HLUR	Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions	0.5	0
HWF	EnviroStor Hazardous Waste Facilities	1.0	0
ICE	EnviroStor Inspection, Compliance, and Enforcement	1.0	0
ILST	Leaking Underground Storage Tanks (LUSTs) on Indian Lands	0.5	0
IUST	Underground Storage Tanks (USTs) on Indian Lands	0.25	0
LDS	Land Disposal Sites	0.5	0
LUR	Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions	0.5	0
LUST	Leaking Underground Fuel Tank Reports	0.5	0
RESP	State Response Sites	1.0	0
SCH	School Property Evaluation Program Sites	1.0	0
SWAT	Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report	0.5	0
SWF	Solid Waste Information System (SWIS)	0.5	0
UST	Permitted Underground Storage Tank (UST) in GeoTracker	0.25	0
VCP	Voluntary Cleanup Program	1.0	0

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm.

The site is not listed in the regulatory databases.

A list of the additional reviewed databases is included in the regulatory database report included in Appendix D. A review of federal state environmental regulatory database information did not identify regulated facilities within the search radii.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed nine facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
San Bernardino County Department of Environmental Health (SBCDEH) / Online form sent by e-mail EHS.CustomerService@dph.sbcounty.gov	On November 21, 2019, Terracon received a response from Jeanne Hammer, Office Assistant III, with the SBCDEH stating records were not found for the site address.
Department of Toxic Substances Control / by e-mail pubreqact@dtsc.ca.gov	On November 13, 2019, Terracon received a response from Choua Her, Regional Records Coordinator, with the DTSC, stating records were not found for the site address.
Adelanto City Clerk (ACC) / via portal https://adelanto.nextrequest.com/requests/new	At the issuance of this report, a response has not been received.
Mojave Desert Air Pollution Control District (MDAPCD) / Online Form by email Jjochim@mdaqmd.ca.gov	At the issuance of this report, a response has not been received.
Lahontan Regional Water Quality Control Board (LRWQCB) / by e-mail lahontan@waterboards.ca.gov	At the issuance of this report, a response has not been received. Terracon researched on-line at the State Resource Control Board – GeoTracker database, and records were not identified for the site.

4.3 Local Area Knowledge

Based on a review of the California Department of Conservation Division of Oil, Gas & Geothermal Well Finder website (https://maps.conservation.ca.gov/doggr/wellfinder), there are no oil or gas production wells located at the site or surrounding areas.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Jennifer S. Van and Meg Haile
Reconnaissance Date	November 26, 2019
Weather Conditions	Sunny 66˚F
Site Contact/Title	N/A

5.2 Overview of Current Site Occupants

The site is located approximately 320 feet west of the intersection of Highway 395 and Desert Flower Road in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Number (APN): 046018421). The site consists of approximately 80 acres of undeveloped land with an unimproved road running through the northeastern portion of the site and two unimproved roads running through the southwestern portion of the site.

5.3 Overview of Current Site Operations

The site consists of undeveloped land and was unoccupied at the time of the site reconnaissance.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an “X”) are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint booths	
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	

Category	Item or Feature	Observed or Identified
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS or SDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	X
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	X
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wastewater lagoons	
	Wells	

Underground Chemical or Waste Storage, Drainage or Collection System

Pipeline Markers
Pipeline markers were located along an unnamed, unimproved road running diagonally through the site from north to east. The pipeline markers were for a high pressure gas pipeline. Leakage, spills or releases from the pipeline were not observed at the time of the site reconnaissance.

Based on a review of the National Pipeline Mapping System (NPMS), there is a gas transmission pipeline that runs parallel to Highway 395, located approximately 320 feet to the east of the site. The pipelines are not listed in the regulatory database and a release was not identified in the regulatory review. Based on the absence of reported releases and regulatory status, the off-site identified pipelines do not represent a REC to the site.

Releases or Potential Releases

Trash, debris and/or other waste materials
Trash and debris were observed on the northwest, southeast and western portions of the site during the site reconnaissance. Based on visual observation (only of surface materials) approximately three cubic yards of debris, which consisted of household trash; paper, plastic, and glass, furniture and tires were observed. Leakage, spills or other releases from these materials were not observed during the visual reconnaissance. The debris materials did not appear to be hazardous in nature. Based on site observations, the trash and debris does not represent a REC to the site.

Construction/demolition debris and/or dumped fill dirt
Construction/demolition debris was observed on the central-western and northwestern portions of the site during the site reconnaissance. The amount of debris was approximately three cubic yards. Based upon visual observation of surface materials only, this area appeared to consist primarily of concrete and wood. This area is accessed by Desert Flower Road and County Road. Leakage, spills or other releases from these materials were not observed during the visual reconnaissance. Based on site observations, the concrete debris does not constitute a REC on the site.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	The property north of the site consists of Desert Flower Road and undeveloped land.

Direction	Description
East	The property east of the site consists of undeveloped land and US Highway 395.
South	The property south of the site consists of undeveloped land and an unimproved road.
West	The property to the west of the site consist of undeveloped land and two unimproved roads.

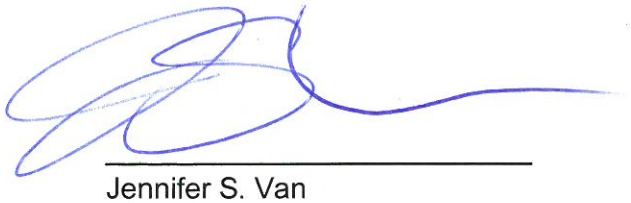
RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. sampling, lead in based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

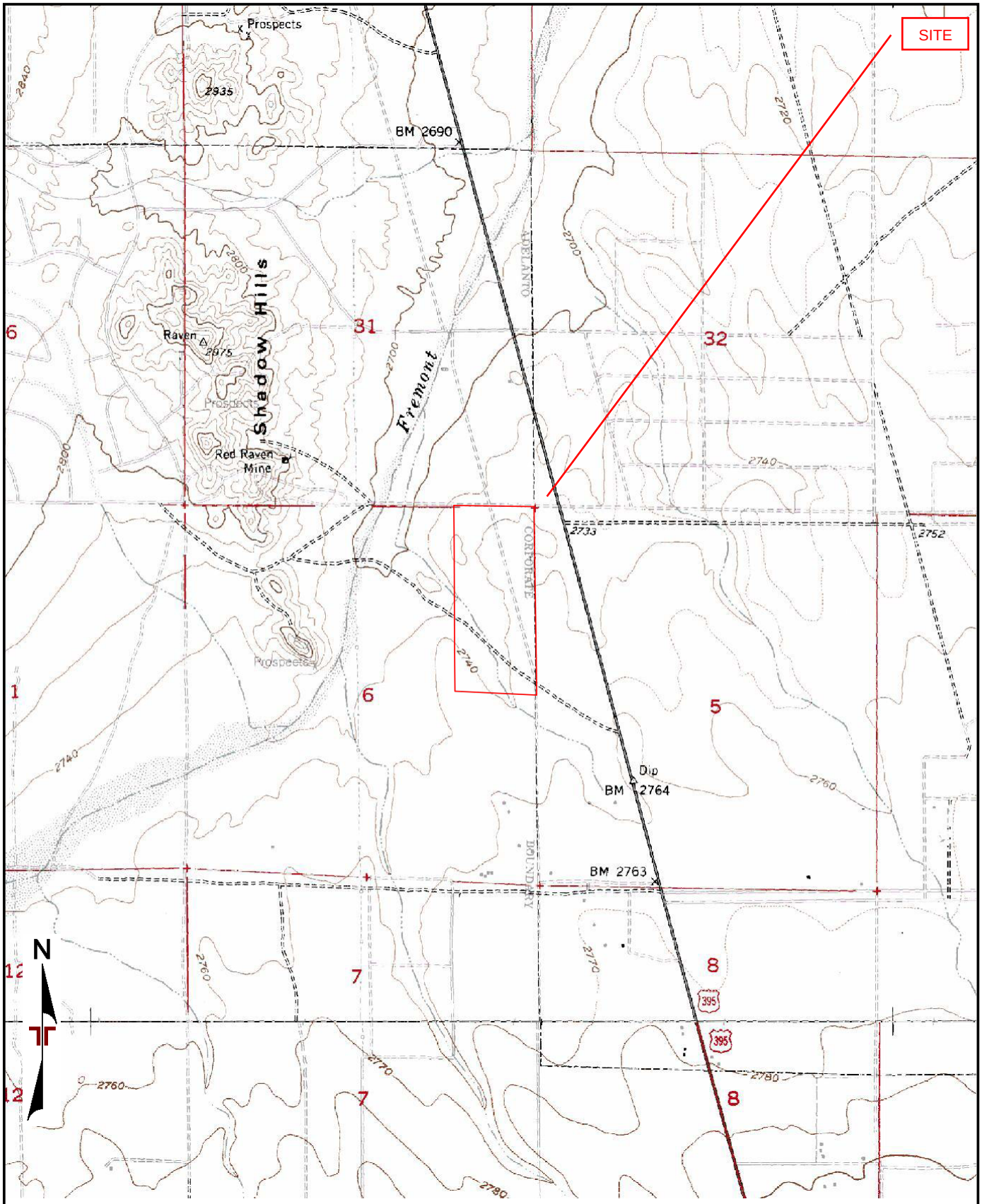
8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



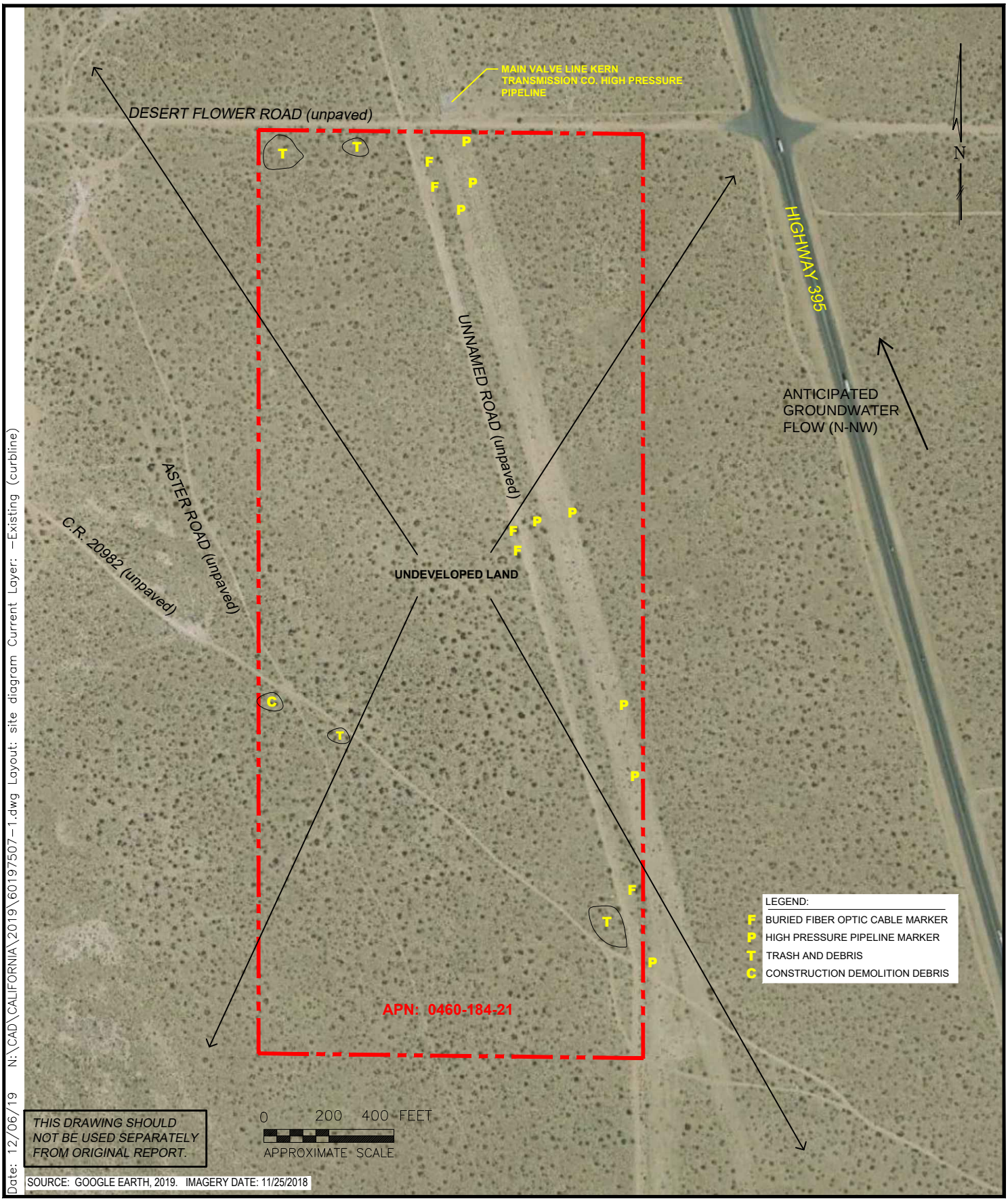
Jennifer S. Van
Environmental Group Manager

APPENDIX A
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBIT 2 – SITE DIAGRAM



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: VICTORVILLE NW, CA (1/1/1993) and ADELANTO, CA (1/1/1993).

Project Manager: JSV	Project No. 60197507	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP	Exhibit
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	1
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			



Project Mngr: JSV	Project No. 60197507.1	Terracon Consulting Engineers and Scientists (Registration No.: F-3272) 8901 CARPENTER FREEWAY DALLAS, TEXAS 75247 PH. (214) 630-1010 FAX. (214) 630-7070	**SITE DIAGRAM**	EXHIBIT
Drawn By: CDD	Scale: AS SHOWN		BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	2
Checked By: JSV	Date: 12/06/19			
Approved By: IRN				

APPENDIX B
SITE PHOTOGRAPHS



Photo #1 View of the northeastern portion of the site looking southwest.



Photo #2 View of the northwestern portion of the site looking east.



Photo #3 View of the southeastern portion of the site looking west.



Photo #4 View of site from middle portion of western boundary looking east.



Photo #5 Typical view of the road located through the northeast of the site.



Photo #6 Typical view of buried fiber optic cable marker located along center of site.



Photo #7 Typical view of high pressure gas pipeline marker located along center of site.



Photo #8 View of tires, trash and debris located the central portion of the site.



Photo #9 View of concrete debris located on the central-west portion of the site.



Photo #10 View of tires, trash and debris located on the southeastern portion of the site.



Photo #11 View of adjoining property to the north from northern boundary of the site.



Photo #12 View of the valve line from Kern Transmission Co. high pressure gas line located to the adjoining north of the site.



Photo #13 View of adjoining property to the east from southeast corner of site.



Photo #14 View of adjoining property to the south from southern boundary of the site.



Photo #15 View of adjoining property to the west from northwest corner of the site.



Photo #16 View of adjoining property to the west from middle portion of western boundary.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Client/User Required Questionnaire

Terracon

Person Completing Questionnaire	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Site Name	Baldy Mesa Solar - Phase II (5 sites)
Site Address	City of Adelanto, CA
Point of Contact for Access	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Access Restrictions or Special Site Requirements?	X No ___ Yes (If yes, please explain)
Confidentiality Requirements?	___ No X Yes (If yes, please explain) outlined in MSA
Current Site Owner	Name: Phone: Company: See Title Reports Email: -
Current Site Operator	Name: Phone: Company: See Title Reports Email: -
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Conditional use permit for development and operation of a photovoltaic solar utility plant.
Anticipated Future Site Use	Photovoltaic Solar Utility
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.

ASTM User Questionnaire

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___ Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___ Yes ___ Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___ Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___ Yes (If yes, explain below)

Comments or explanations:

None

Please return this form with the signed authorization to proceed. Proposal No. P60197507

ENVIRONMENTAL RISK INFORMATION SERVICES

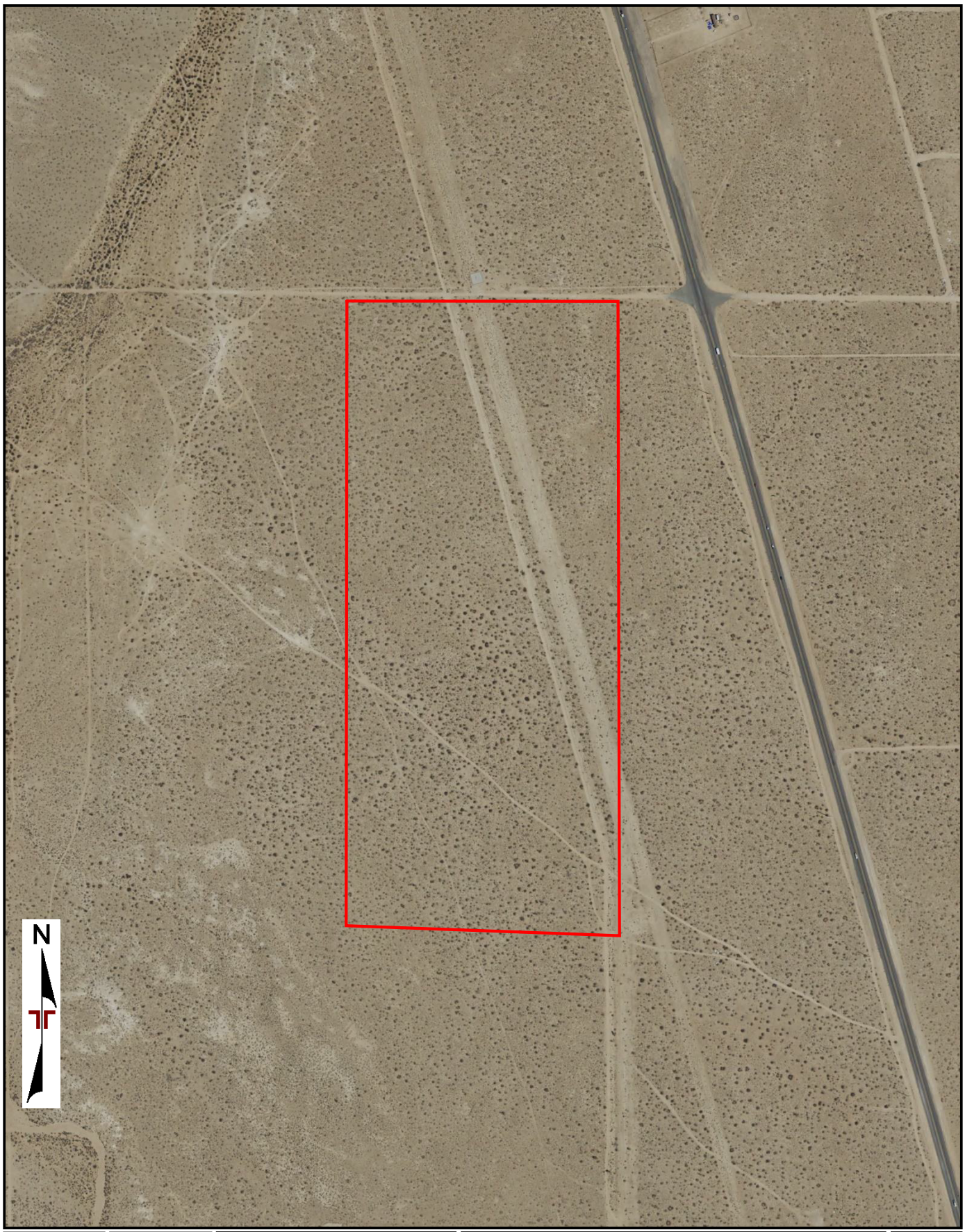
HISTORICAL AERIALS

Project Property:	Baldy Mesa Phase II Site 1 Adelanto CA
Project No:	
Requested By:	Terracon
Order No:	20191113051
Date Completed:	November 19, 2019

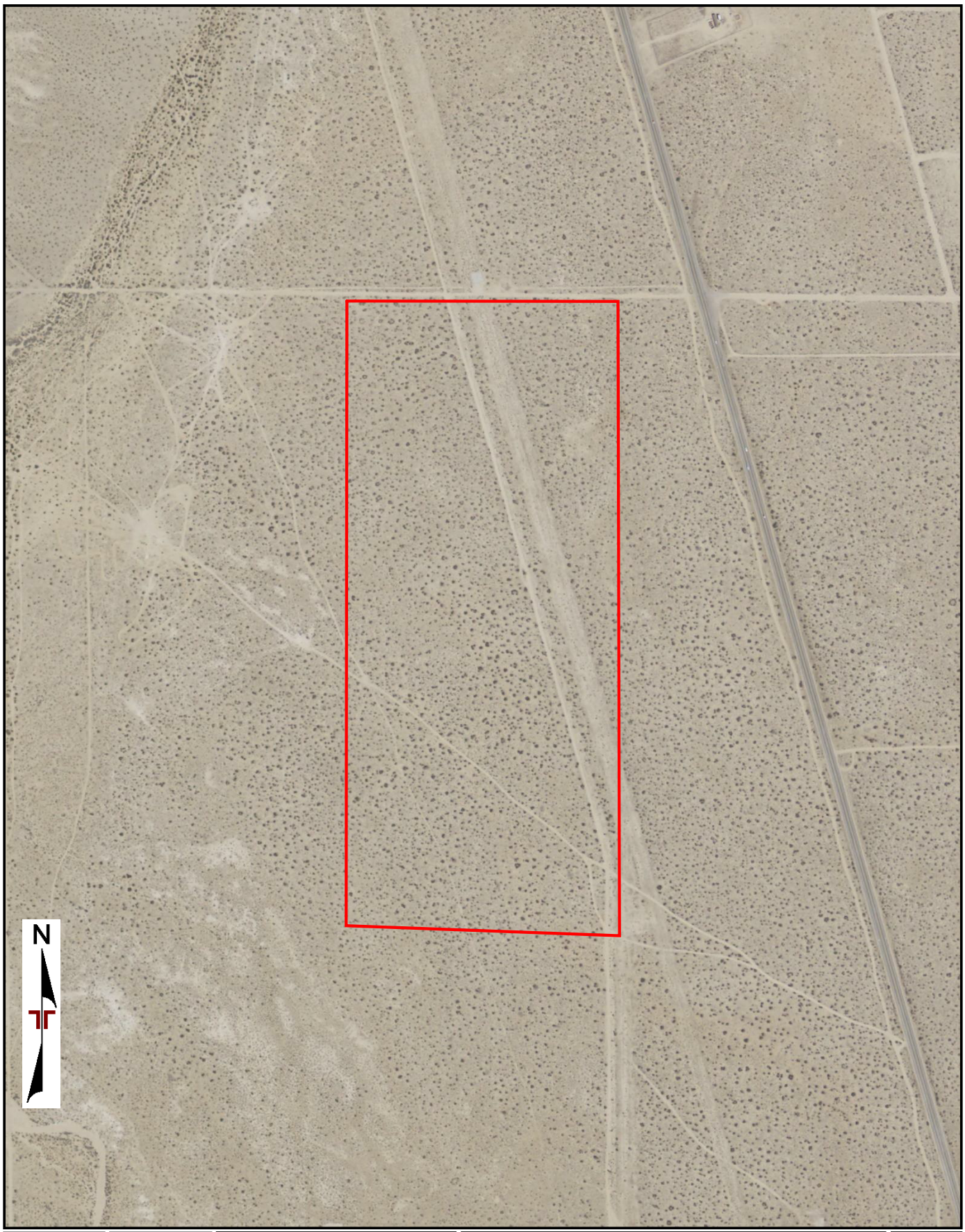
Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Date	Source	Source scale	Comment
2018	NAIP	1":500'	
2012	NAIP	1":500'	
2010	NAIP	1":500'	
2005	NAIP	1":500'	
1995	USGS	1":500'	
1985	NHAP	1":500'	
1978	USGS	1":500'	BEST COPY AVAILABLE
1968	USGS	1":500'	
1959	ASCS	1":500'	
1952	USGS	1":500'	
1948	USAF	1":500'	BEST COPY AVAILABLE



Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (2018-NAIP)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C	BALDY MESA SOLAR PHASE II - SITE 1	C
Checked by: JSV	File Name: 20191113051	Tustin, California 92780	APN:046018421	
Approved by: SN	Date: NOV 2019		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	



Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (2012-NAIP)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C	BALDY MESA SOLAR PHASE II - SITE 1
Checked by: JSV	File Name: 20191113051	Tustin, California 92780	APN:046018421
Approved by: SN	Date: NOV 2019		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix

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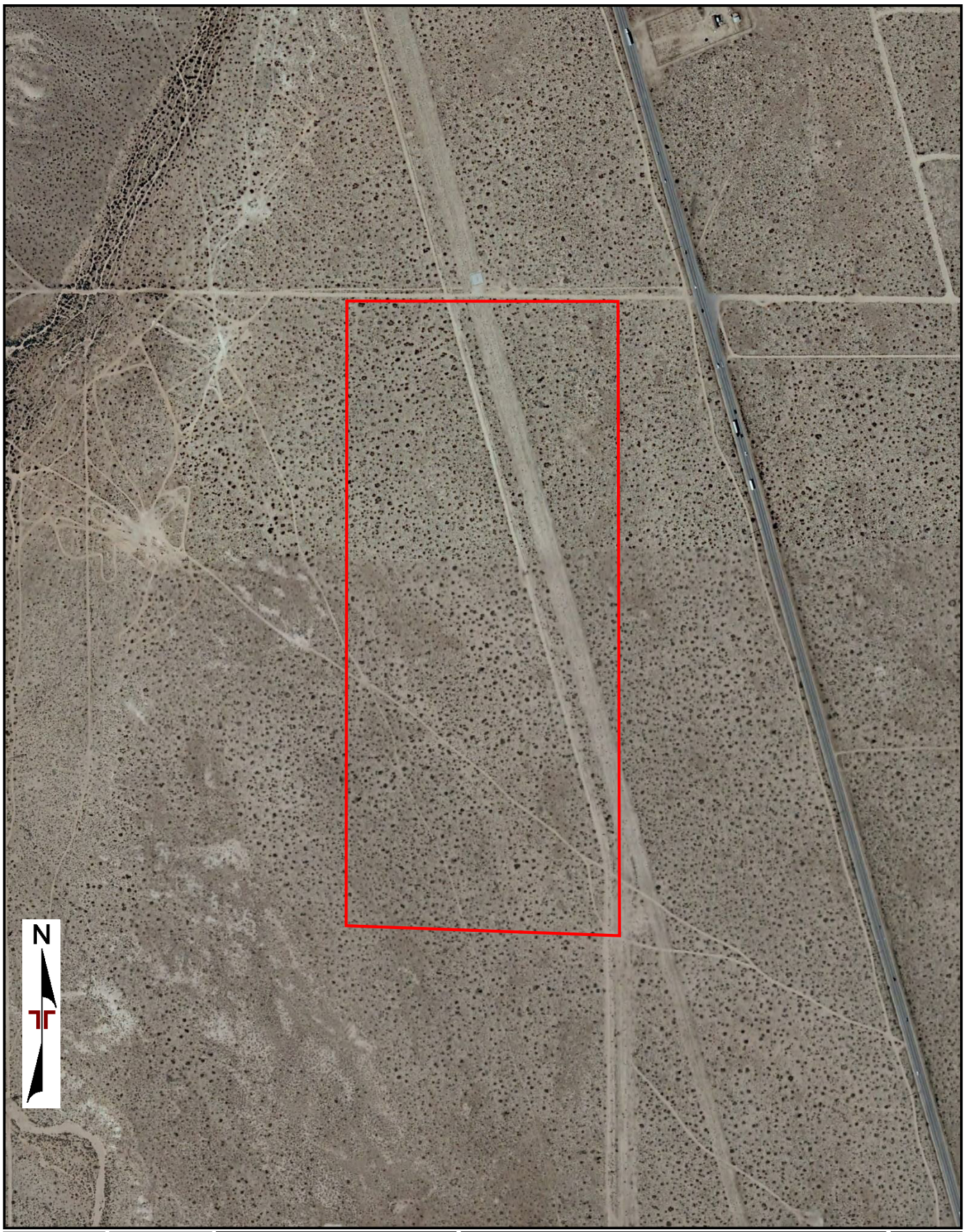
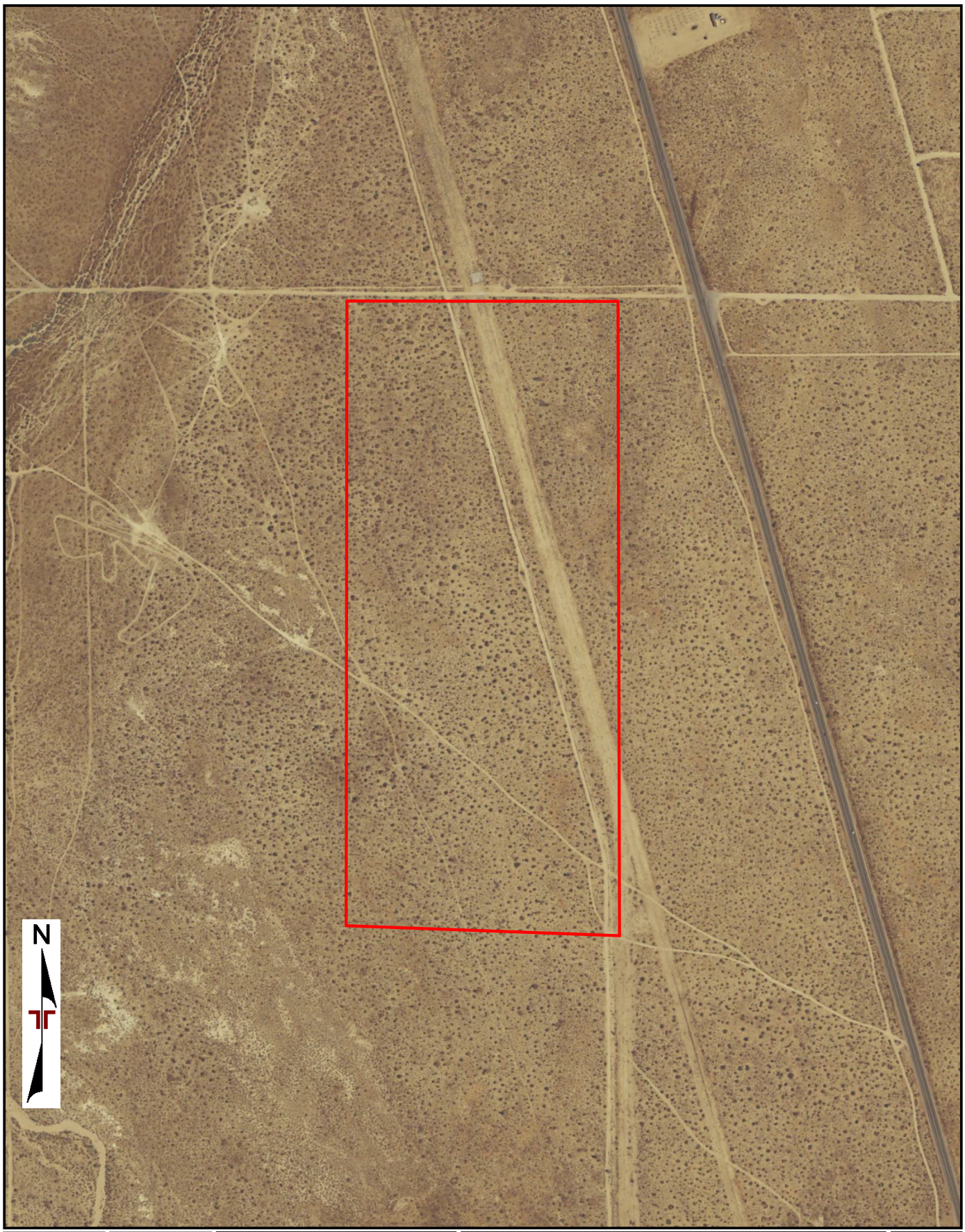


Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (2010-NAIP)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA
Checked by: JSV	File Name: 20191113051		
Approved by: SN	Date: NOV 2019		Appendix C



Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (2005-NAIP)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C	BALDY MESA SOLAR PHASE II - SITE 1
Checked by: JSV	File Name: 20191113051	Tustin, California 92780	APN:046018421
Approved by: SN	Date: NOV 2019		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix

C



Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 2 Scale: 1":500' File Name: 20191113051 Date: NOV 2019	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	AERIAL PHOTO (1995-USGS) BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



Project Manager: JSV	Project No. Site 2	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	AERIAL PHOTO (1985-NHAP) BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1":500'			
Checked by: JSV	File Name: 20191113051			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 2	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	AERIAL PHOTO (1978-USGS) BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1":500'			
Checked by: JSV	File Name: 20191113051			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (1968-USGS)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C	BALDY MESA SOLAR PHASE II - SITE 1
Checked by: JSV	File Name: 20191113051	Tustin, California 92780	APN:046018421
Approved by: SN	Date: NOV 2019		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix

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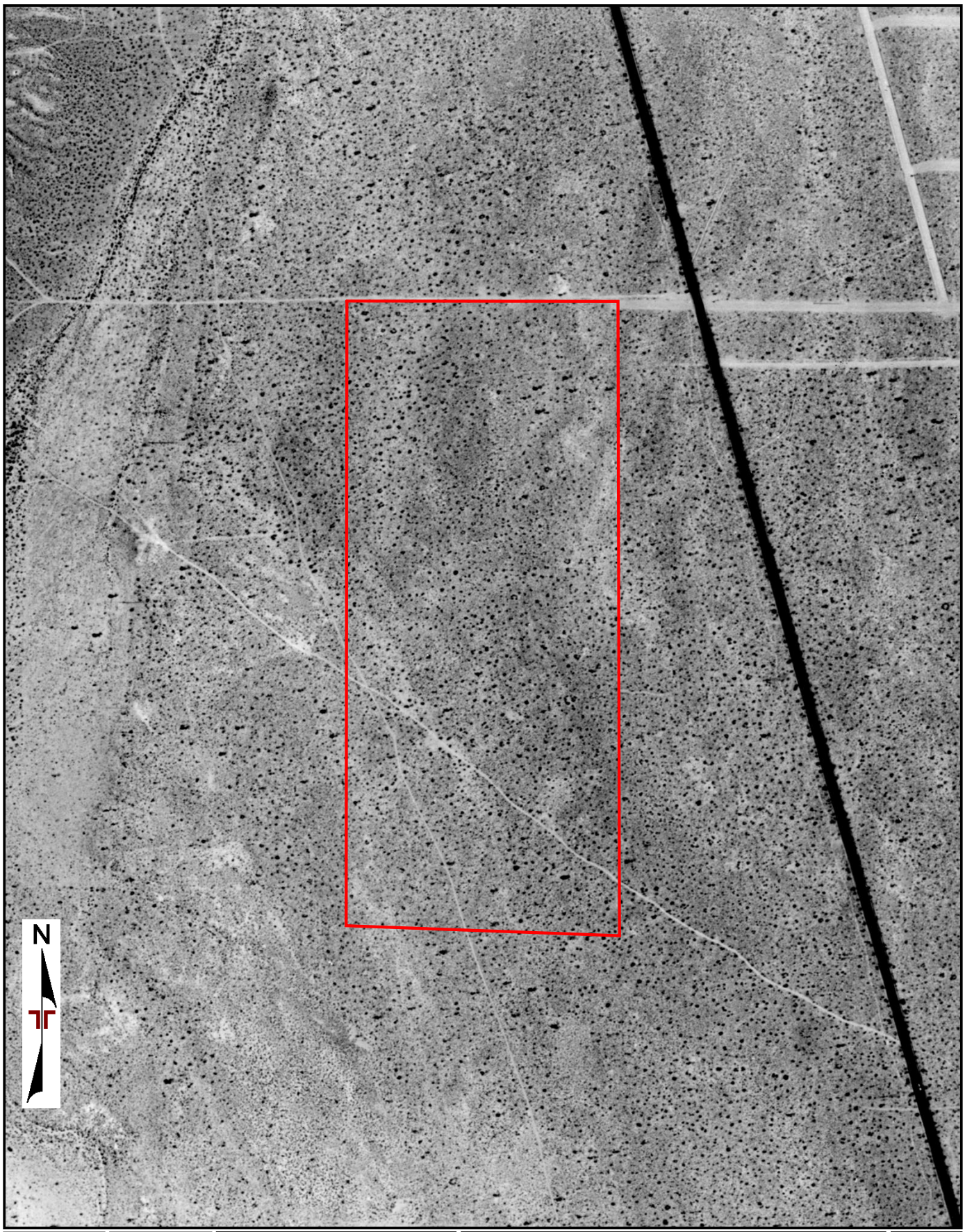


Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (1959-ASCS)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C	BALDY MESA SOLAR PHASE II - SITE 1
Checked by: JSV	File Name: 20191113051	Tustin, California 92780	APN:046018421
Approved by: SN	Date: NOV 2019		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix

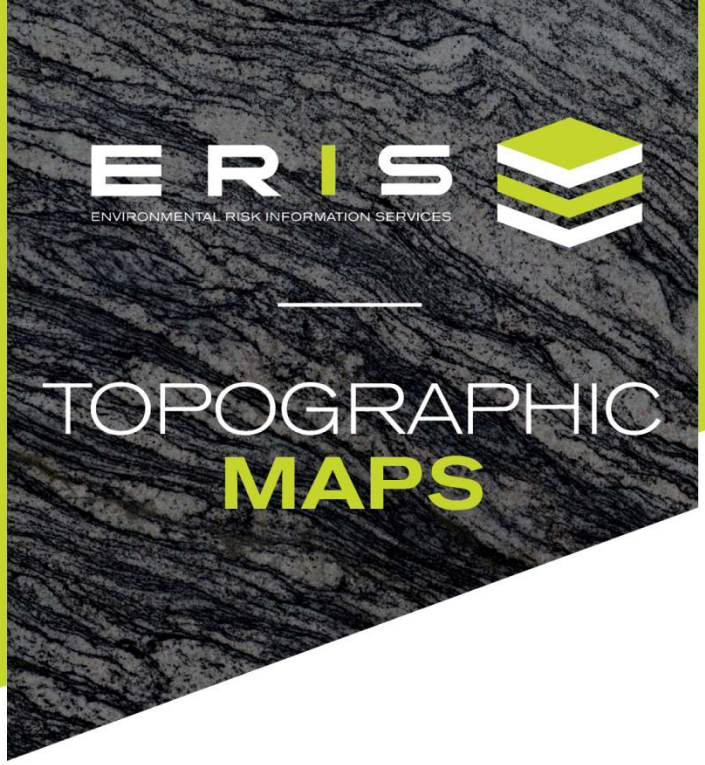
C



Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (1952-USGS)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA
Checked by: JSV	File Name: 20191113051		
Approved by: SN	Date: NOV 2019		Appendix C



Project Manager: JSV	Project No. Site 2	Terracon	AERIAL PHOTO (1948-USAF)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA
Checked by: JSV	File Name: 20191113051		
Approved by: SN	Date: NOV 2019		Appendix C



Project Property:	Baldy Mesa Phase II Site 1
	Adelanto CA
Project No:	
Requested By:	Terracon
Order No:	20191113051
Date Completed:	November 14, 2019

Environmental Risk Information Services
A division of Glacier Media Inc.
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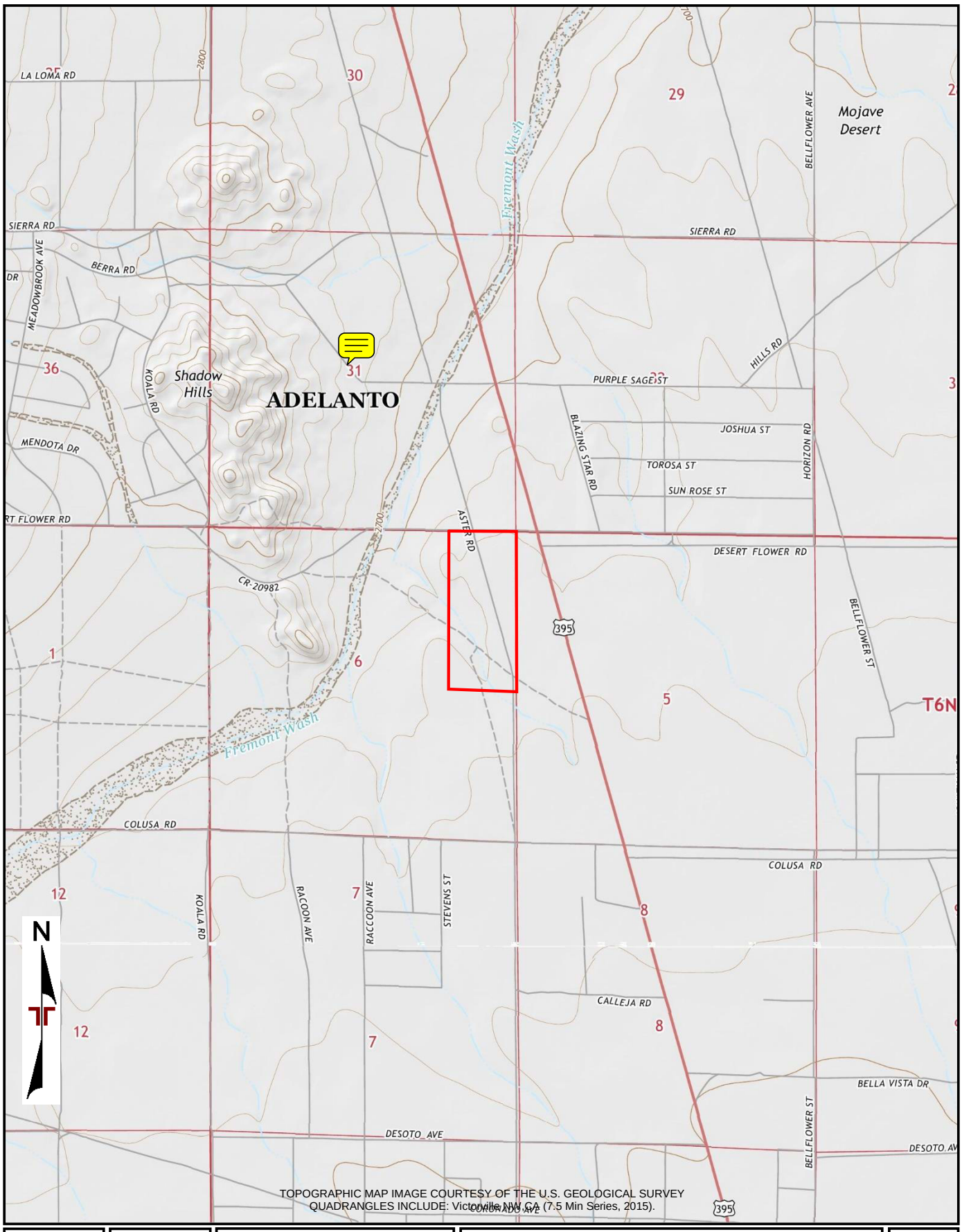
We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1993	7.5
1968	7.5
1956	7.5
1956	15

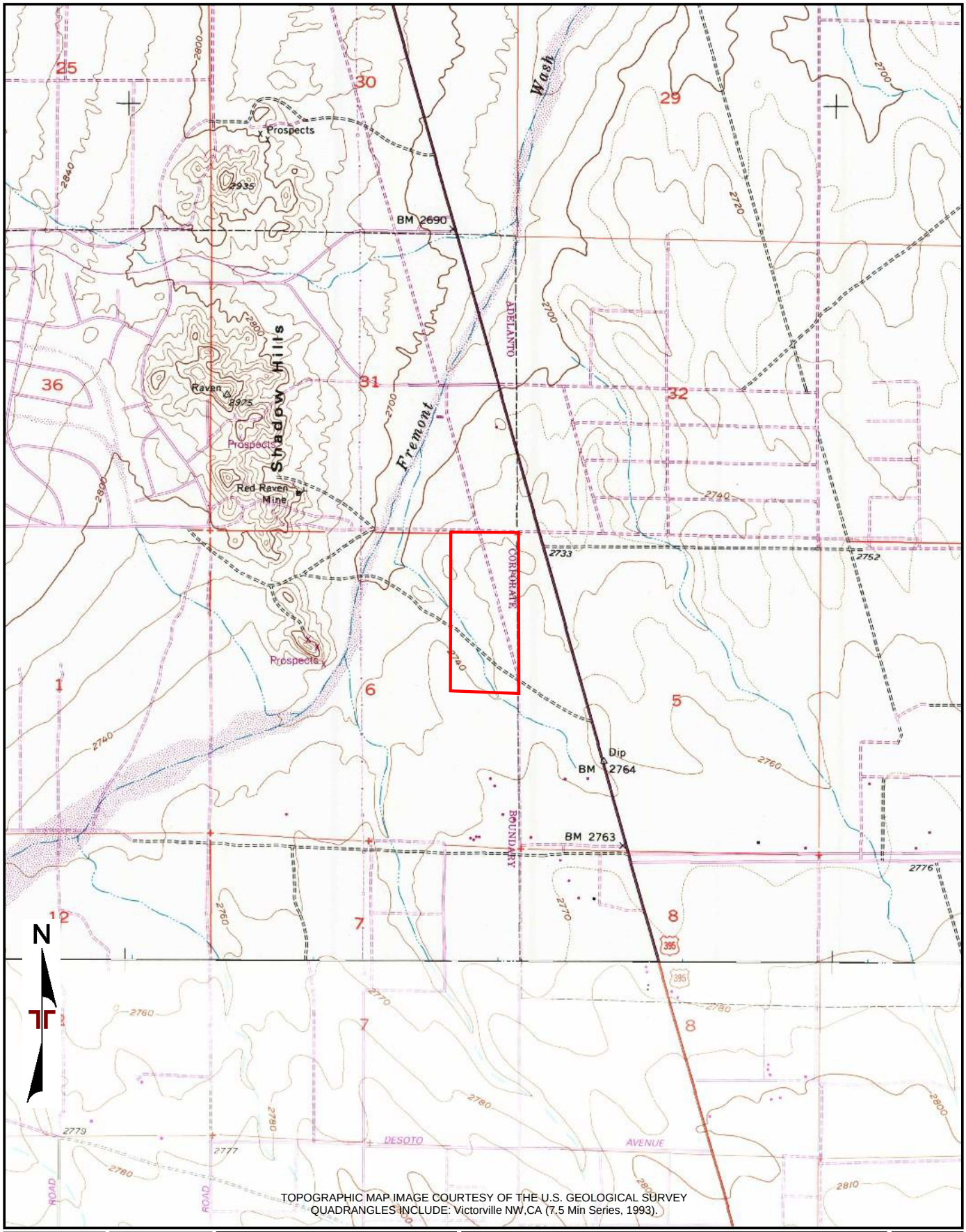
Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS. This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW, CA (7.5 Min Series, 2015).

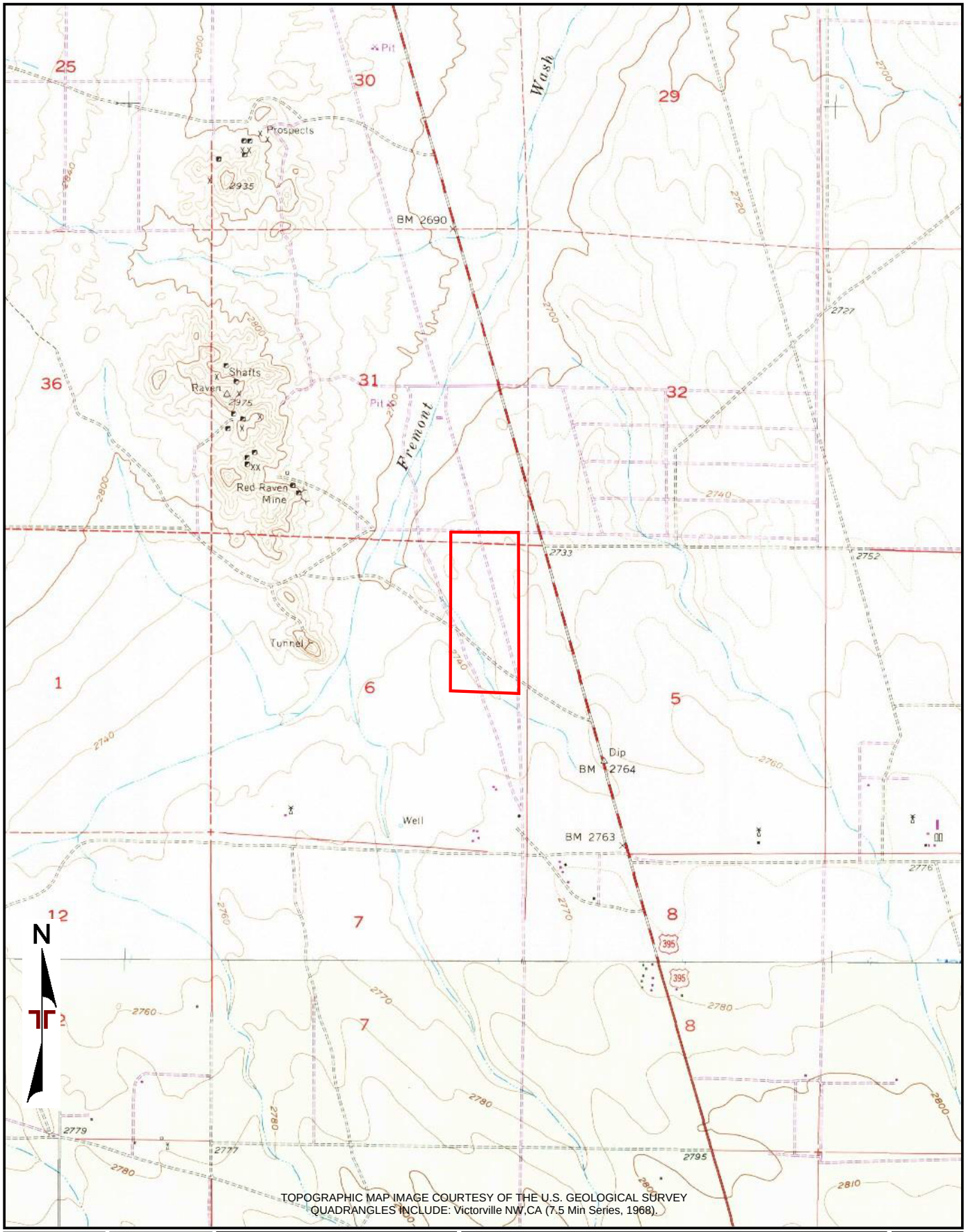
Project Manager: JSV	Project No. Site 2	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (2015) BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA
Drawn by: MH	Scale: 1"=2,000'		
Checked by: JSV	File Name: 20191113051		
Approved by: SN	Date: NOV 2019		

Appendix C



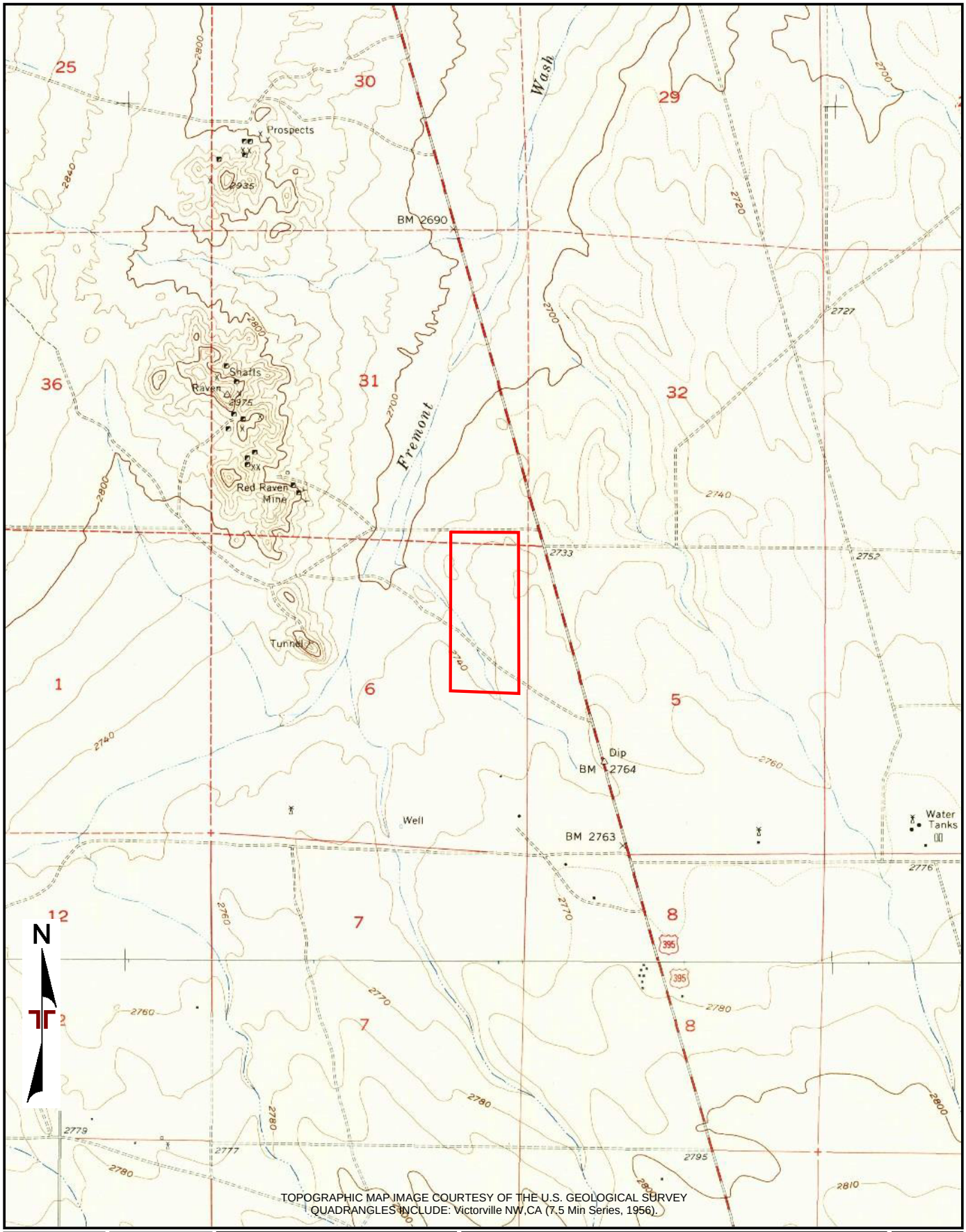
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW,CA (7.5 Min Series, 1993).

Project Manager: JSV	Project No. Site 2	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1993)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113051			
Approved by: SN	Date: NOV 2019			



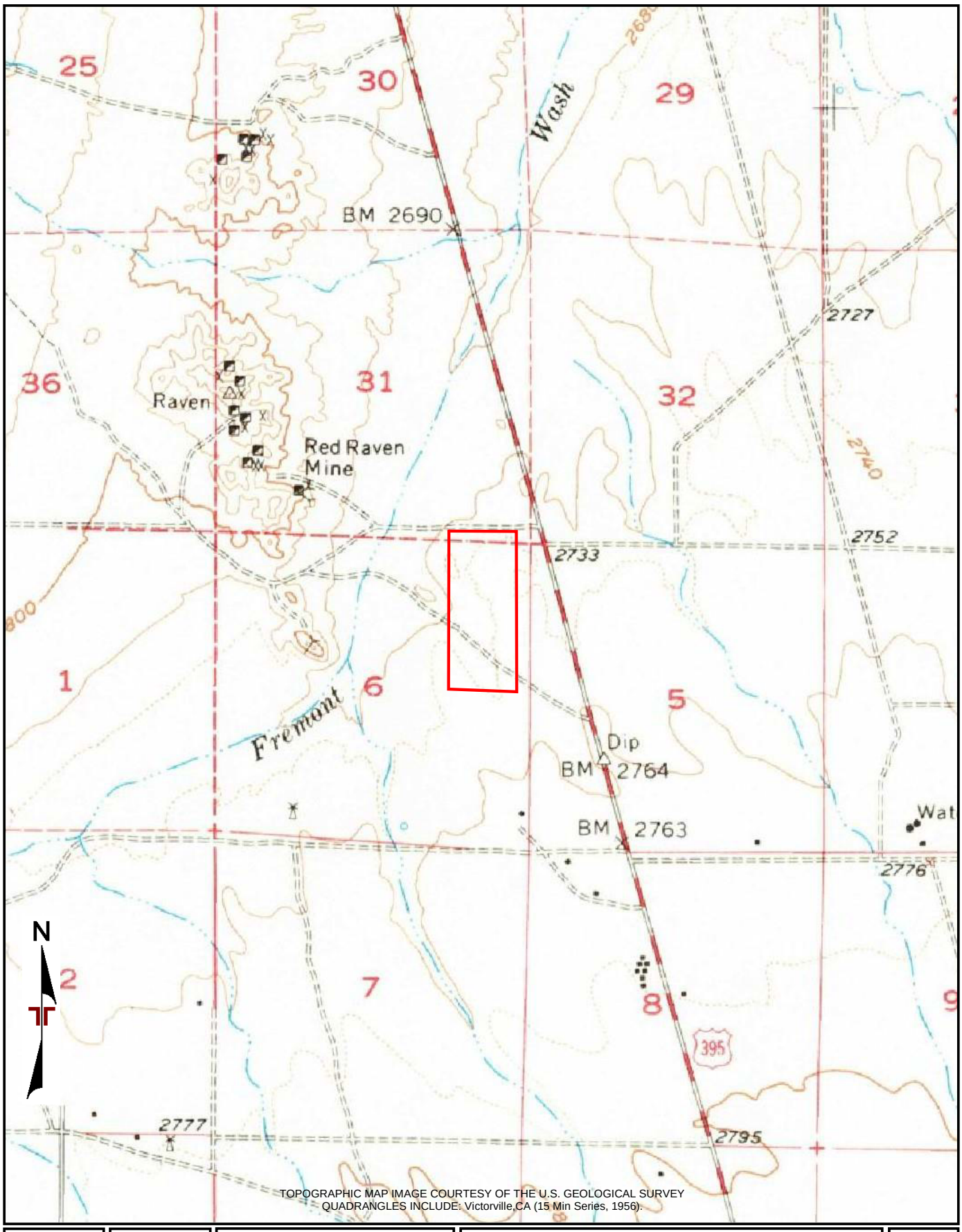
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW,CA (7.5 Min Series, 1968).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 2 Scale: 1"=2,000' File Name: 20191113051 Date: NOV 2019	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1968) BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW,CA (7.5 Min Series, 1956).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 2 Scale: 1"=2,000' File Name: 20191113051 Date: NOV 2019	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956) BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville,CA (15 Min Series, 1956).

Project Manager: JSV	Project No. Site 2	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 1 APN:046018421 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113051			
Approved by: SN	Date: NOV 2019			

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Site 1 Site 1 Adelanto CA
Project No:	Site 1
Requested By:	Terracon
Order No:	20191113052
Date Completed:	November 14, 2019

Please note that no information was found for your site or adjacent properties.

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Site 1* *Site 1* *Adelanto, CA*
Project No:	*Site 1*
Requested By:	*Terracon*
Order No:	*20191113051*
Date Completed:	*November 26, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

November 26, 2019
RE: CITY DIRECTORY RESEARCH
Site 2
Site 2 Adelanto, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

All of Desert Flower Road
All of Aster Road
All of Co Road 20982

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2006	DIGITAL BUSINESS DIRECTORY	
2002	DIGITAL BUSINESS DIRECTORY	
1998	DIGITAL BUSINESS DIRECTORY	
1988	HAINES	
1971	HAINES	

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

16800 **LOS ANGLES DEPT OF WATER/POWER**...*Legis*

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

. **LOS ANGELES DEPARTMENT OF WATER &** ...
16800 **LOS ANGELES DEPT OF WATER & POWER** ...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

1988
SOURCE: HAINES

ASTER ROAD

16800 **ASEA POWER SYSTEMS**
16800 **LA DEPT WATER & POWER**
16800 **LA DEPT WATER & POWER**

1988
SOURCE: HAINES

CO ROAD 20982

STREET NOT LISTED

1988
SOURCE: HAINES

DESERT FLOWER ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

ASTER ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

CO ROAD 20982

STREET NOT LISTED

1971
SOURCE: HAINES

DESERT FLOWER ROAD

STREET NOT LISTED

stewart title
Real partners. Real possibilities.™

Shelly Sanchez
Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
Phone: (951) 276-2700
Fax: (866) 476-8953
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

Order No.: 424845
Your File No.:
Buyer/Borrower Name: Sustainable Property Holdings LLC
Seller Name: Annie Choie-Wagner and Shin Chung

Property Address: APN: 0460-184-21, Vacant Land, Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title of California, Inc. hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of May 1, 2019 at 8:00AM	

When replying, please contact: Shelly Sanchez, Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
(951) 276-2700
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☒ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Annie Choie-Wagner, a married woman, by deed which recites as her sole and separate property, as to an undivided 33.085% interest; Shin Kyung Chung, a married woman by deed which recites as her sole and separate property, as to an undivided 33.085% interest; and Robert Dulaurence and Sarah Appleton,Trustees of the Rancho DuLaurence Trust dated October 1, 1993, who acquired title as Rancho DuLaurence Trust, as to an undivided 33.83% interest, subject to Items 12 through 17, herein

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The East 80 acres, of the Northeast Quarter (N.E. 1/4) of Section Six (6), Township Six (6) North, Range Five (5) West, San Bernardino Base and Meridian, in the City of Adelanto, County of San Bernardino, State of California, according to the Official Plat thereof.

APN: 0460-184-21

(End of Legal Description)

MAP

THE MAP CONNECTED HEREWITH IS BEING PROVIDED AS A COURTESY AND FOR INFORMATIONAL PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. STEWART ASSUMES NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO THE MAPS NOR ANY MATTERS CONCERNING THE CONTENTS OF OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 - 2020.

B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California.

C. Taxes and/or assessments affecting the land, if any, for Community Facility Districts including Mello Roos Districts which may exist by virtue of assessment maps or notices filed by said districts. Said taxes and/or assessments are typically collected with the County taxes; however, some districts may remove these taxes and/or assessment from the County taxes and assess and collect them separately.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

3. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

4. Reservations and exceptions in the Patent by the United States, recorded December 6, 1915 in Book K page 13 of Patents..

5. An easement for underground cables, wires, conduits, manholes, and rights incidental thereto in favor of Pacific Telephone and Telegraph Company, as set forth in a document recorded December 27, 1963 in Book 6055 page 326 of Official Records, affects as shown therein.

6. An easement for permanent non-exclusive rights of way and easements for underground pipelines, and rights incidental thereto in favor of Southern California Gas Company, a California public utility corporation, as set forth in a document recorded August 10, 2004 as Instrument No. 04-576263 of Official Records, affects as shown therein.

   Document re-recorded October 4, 2004 as Instrument No. 04-723463 of Official Records.

7. An easement for permanent easement for underground pipelines, and rights incidental thereto in favor of Kern River Gas Transmission Company, a Texas general partnership, as set forth in a document recorded October 14, 2004 as Instrument No. 04-749726 of Official Records, affects as shown therein.

8. The fact that said land is included within a project area of the Victor Valley Economic Development Authority Redevelopment Project Area, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded February 9, 2005 as Instrument No. 05-97200 of Official Records.

9. An easement for road purposes and rights incidental thereto over that portion of said land lying within the lines of Desert Flower Road as the same now exists.

10. Lack of a right of access to and from the land.

11. Any inaccuracy in the area, square footage, or acreage of land described in Schedule A or attached plat, if any. The Company does not insure the area, square footage, or acreage of the land.

12. Any right, title or interest of Annie Choie Wagner, Grantee, as disclosed by his/her joinder in the document recorded October 20, 2009 as Instrument No. 09-457858 of Official Records.

13. This Company requires that the spouse or domestic partner (if any) of Shin Kyung Chung, grantee, join in any conveyance or encumbrance before such transaction can be insured.

14. Any right, title or interest of Shin Kyung Chung, grantee, as disclosed by his/her joinder in the document recorded October 20, 2009 as Instrument No. 09-457858 of Official Records.

15. This Company requires that the spouse or domestic partner (if any) of Shin Kyung Chung, grantee, join in any conveyance or encumbrance before such transaction can be insured.

16. Any invalidity or defect in the title of the vestees in the event that the trust referred to in the vesting portion of Schedule A is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

17. If title is to be insured in the trustee(s) of a trust or their act is to be insured, we will require a full copy of the trust agreement and any amendments thereto. In certain situations the Company may accept a Trust Certificate, pursuant to Section 18100.5 of the California Probate Code in lieu of the trust agreement. The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

18. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

(End of Exceptions)

NOTES AND REQUIREMENTS

A. The following pricing will apply to the contemplated transaction:

   Basic Rate

B. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
   1st Installment: $2,008.40
   2nd Installment: $2,008.38
   Parcel No.: 0460-184-21-0
   Code Area: 014032

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title of California, Inc. via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title of California, Inc.. Stewart Title of California, Inc. may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title of California, Inc. shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title of California, Inc.. Such benefits shall be deemed additional compensation to Stewart Title of California, Inc. for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 424845
Escrow No.: 424845

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The East 80 acres, of the Northeast Quarter (N.E. 1/4) of Section Six (6), Township Six (6) North, Range Five (5) West, San Bernardino Base and Meridian, in the City of Adelanto, County of San Bernardino, State of California, according to the Official Plat thereof.

APN: 0460-184-21

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: May 15, 2019

File No.: 424845

Property: APN: 0460-184-21, Vacant Land, Adelanto, CA 92301

From: Stewart Title of California, Inc.

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and . Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

ACKNOWLEDGEMENT OF RECEIPT, UNDERSTANDING AND APPROVAL OF STEWART TITLE GUARANTY COMPANY PRIVACY NOTICE FOR STEWART TITLE COMPANIES AND AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

The undersigned hereby acknowledge receipt of the Stewart Title Guaranty Company Privacy Notice for Stewart Title Companies and the Affiliated Business Arrangement Disclosure Statement that apply to this transaction. The undersigned further acknowledge that he/she/they have received, read, understand and accept these documents in connection with the above described transaction.

The undersigned have received a copy of this acknowledgement as evidenced by the signature below.

_____ _____

Annie Choie-Wagner Shin Chung

_____

Sustainable Property Holdings LLC

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (c) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records,
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i) the occupancy, use, or enjoyment of the Land;
   ii) the character, dimensions, or location of any improvement erected on the Land;
   iii) the subdivision of land; or
   iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

AVAILABLE DISCOUNTS DISCLOSURE STATEMENT

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") is pleased to inform you that upon proper qualification, there are premium discounts available upon the purchase of title insurance covering improved property with a one to four family residential dwelling.

Such discounts apply to and include:

Property located within an area proclaimed a state or federal disaster area;

Property purchased from a foreclosing beneficiary or successful bidder at a foreclosure sale;

Property being refinanced.

Please talk with your escrow or title officer to determine your qualification for any of these discounts.

IF YOU'RE PAYING FOR THE TITLE INSURANCE POLICY PREMIUM TO BE DISCOUNTED, PLEASE COMPLETE AND SUBMIT THIS FORM TO DETERMINE ELIGIBILITY FOR ONE OF THE STATED DISCOUNTS

STGC TITLE PREMIUM DISCOUNT APPLICATION AND CONFIRMATION OF ELIGIBILITY

Order Number: 424845

Property: APN: 0460-184-21, Vacant Land, Adelanto, CA 92301

APN: 0460-184-21

In connection with the request of the Undersigned ("Applicant") for the preparation and issuance of title insurance, Applicant provides this completed STGC Title Premium Discount Application and Confirmation of Eligibility ("Request Form") for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company, and its policy issuing agent Stewart Title of California, Inc. (collectively hereafter referred to as "Stewart Title") in connection with pricing the title insurance premium for the owner-occupied, 1-4 family residence in the above referenced transaction:

1. Applicant understands that Stewart Title has available for qualifying requestors a 10% discount on the title insurance premium charged under certain circumstances; however, all endorsement fees and other charges are not discounted.
2. Applicant understands that Stewart Title is only able to provide such discount if requested through providing this completed Request Form and is received by Stewart Title at least five (5) business days prior to recording of the transaction to which a discount is requested.
3. Applicant understands that Stewart Title prohibits combined discounts; accordingly, Stewart Title will provide this requested discount and disregard other applicable discounts, if any, when eligibility requirements for such discount are satisfied. For refinance transactions, a qualifying discount is available for Stewart's Refinance Rate and its Stewart Absolute Rate.
4. Applicant requests the following discount and affirms that Applicant meets the criteria and requirements set forth to qualify for such selected discount (SELECT ONLY ONE QUALIFYING DISCOUNT):

☐ Active duty military personnel and honorably discharged veterans discount – To qualify for the active duty military personnel and honorably discharged veterans discount: (1) the property being purchased or refinanced must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the title insurance premium being discounted is a U.S. citizen, permanent resident or qualified alien and is either engaged in full-time, active duty in the military on the date signed below or is a honorably discharged veteran.

☐ Senior citizen discount – To qualify for a senior citizen discount: (1) the property being purchased or refinanced must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the title insurance premium being discounted is a U.S. citizen, permanent resident or qualified alien and is 55 years of age or older on the date signed below.

☐ First-time homebuyer discount – To qualify for a first-time homebuyer discount: (1) the property being purchased must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the owner's title insurance premium is a U.S. citizen, permanent resident or qualified alien and has either never owned any property or, has not been an owner in a primary residence for the last three calendar years from the date signed below.

This Request Form is completed under penalty of perjury and is made for the purpose of inducing Stewart Title to provide the title premium discount, and the representations contained herein are material to such insurance coverage pricing. The undersigned hereby indemnifies and holds Stewart Title harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain to the extent any representation contained herein is incorrect. The undersigned understands that Stewart Title may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ AND COMPLETE THE STGC TITLE PREMIUM DISCOUNT REQUEST FORM ON THE PREVIOUS PAGE BEFORE SIGNING BELOW. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD CONTACT YOUR LOCAL STEWART TITLE PROFESSIONAL.

THE UNDERSIGNED DECLARES UNDER PENALTY OF PERJURY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.

Date: _____, 2019

_____ _____

_____ _____

CERTIFICATION OF TRUST

(California Probate Code 18100.5)

IMPORTANT: THIS CERTIFICATION OF TRUST MUST BE FULLY COMPLETED

I/(We) _____

(Name of Trustee(s))

as Trustee(s) of the _____

(Name of Trust)

dated (the "Trust") am/are providing the information set forth below at the request of Stewart Title Guaranty Company, a Texas corporation, and its policy issuing agent , a California corporation (hereafter collectively called "Company").

WHEREAS, Company has been requested to issue a title insurance policy on the real property described in Schedule "A" of the Preliminary Report or Commitment issued under order number 424845; and

WHEREAS, Company has determined that information concerning the Trust is necessary to ascertain whether Company will be able to issue the requested policy of title insurance;

THEREFORE, acting in my/our capacity as Trustee(s) of the Trust, I/we hereby certify and confirm to Company that the information set forth below is accurate and correct.

1. The Trust identification number (SSN or employer Tax ID) is: _____

2. The Settlor(s) of the Trust is/are:
   _____
   _____

3. The currently active Trustee(s) of the Trust is/are:
   _____
   _____

4. As set out in the Trust, the powers of the Trustee(s) include: (check all that apply)
   ____ The power to sell, convey and grant trust property.
   ____ The power to hypothecate (borrow money and encumber/lien trust property).

5. As set out in the Trust, are all currently active Trustee(s) required to execute documents when exercising the powers set forth above?
   (circle one) YES NO

6. As set out in the Trust, the Trust is: (check the appropriate box) ____ Revocable ____ Irrevocable

7. If the Trust is revocable, the name(s) of the person(s) identified as having power to revoke the Trust is/are:
   _____

8. The Trust and the individual named Settlor(s) do not have any liens or money judgments pending, filed and/or recorded against them.

9. The Trust and/or the individually named Settlor(s) are not aware of any threatened, pending, or filed lawsuits nor have it/they settled any lawsuits within the three (3) calendar years immediately preceding the signing of this Certification.

10. By signing below, the undersigned Trustee(s) affirm that the Trust is in full force and effect and has not been revoked or terminated; in addition, the Trust has not been modified or amended in any manner which would cause the representations set forth herein to be incorrect.

11. Is this Certification of Trust is being executed by all currently active Trustees of the Trust? (circle one) YES NO
    If "NO," please explain: _____

12. Are there any living persons or entities named as Trustee in the Trust who are not "currently active Trustees"? (circle one) YES NO If "YES," identify by name and explain why: _____
_____

13. The undersigned Trustees acknowledge and understand that Company may require additional information, including copies and/or excerpts of the Trust and any amendments, when necessary, in order to make an insurance determination.

14. The undersigned Trustee(s) state to the best of his/her/their knowledge, that there are no claims, challenges of any kind, and/or alleged causes of action, contesting or questioning the validity of the Trust or the Trustee(s) authority to act on behalf of the Trust.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS IN THIS CERTIFICATION BEFORE SIGNING. THE TRUSTEE(S) HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION IS TRUE AND CORRECT. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS CERTIFICATION, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING. THE TRUSTEE(S) UNDERSTAND THAT COMPANY MAY DECIDE NOT TO PROVIDE THE REQUESTED TITLE INSURANCE DESPITE THE INFORMATION AND AFFIRMATIONS CONTAINED HEREIN.

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California }
}SS.
County of _____ }

On _____ before me, _____ , Notary Public, personally appeared _____
who proved to be on the basis of satisfactory evidence to be the person(s), whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (This area for official notarial seal)

OWNER'S AFFIDAVIT AND INDEMNITY

Order No.: 424845
Address/Location: APN: 0460-184-21, Vacant Land, Adelanto, CA 92301
APN: 0460-184-21

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer STEWART TITLE GUARANTY COMPANY, and its policy issuing agent STEWART TITLE OF CALIFORNIA, INC. (collectively hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

6. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

7. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

8. Affiant is not aware of the existence of any of the following:
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.
   j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.

k. Any use of the property for the production, sale, warehousing or transporting of fresh fruits, vegetables, livestock or poultry (e.g. supermarkets, restaurants, wineries, breweries and meat packing plants).

With regard to 8a.-8k, except as follows:

_____

9. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance
_____	_____
_____	_____

12. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property and there are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights of the Property, except the following: **(If none, please state "none")**

    _____

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

    _____

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____	_____
Annie Choie-Wagner	Shin Chung

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

Stewart Title Guaranty Company Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you request insurance-related services provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

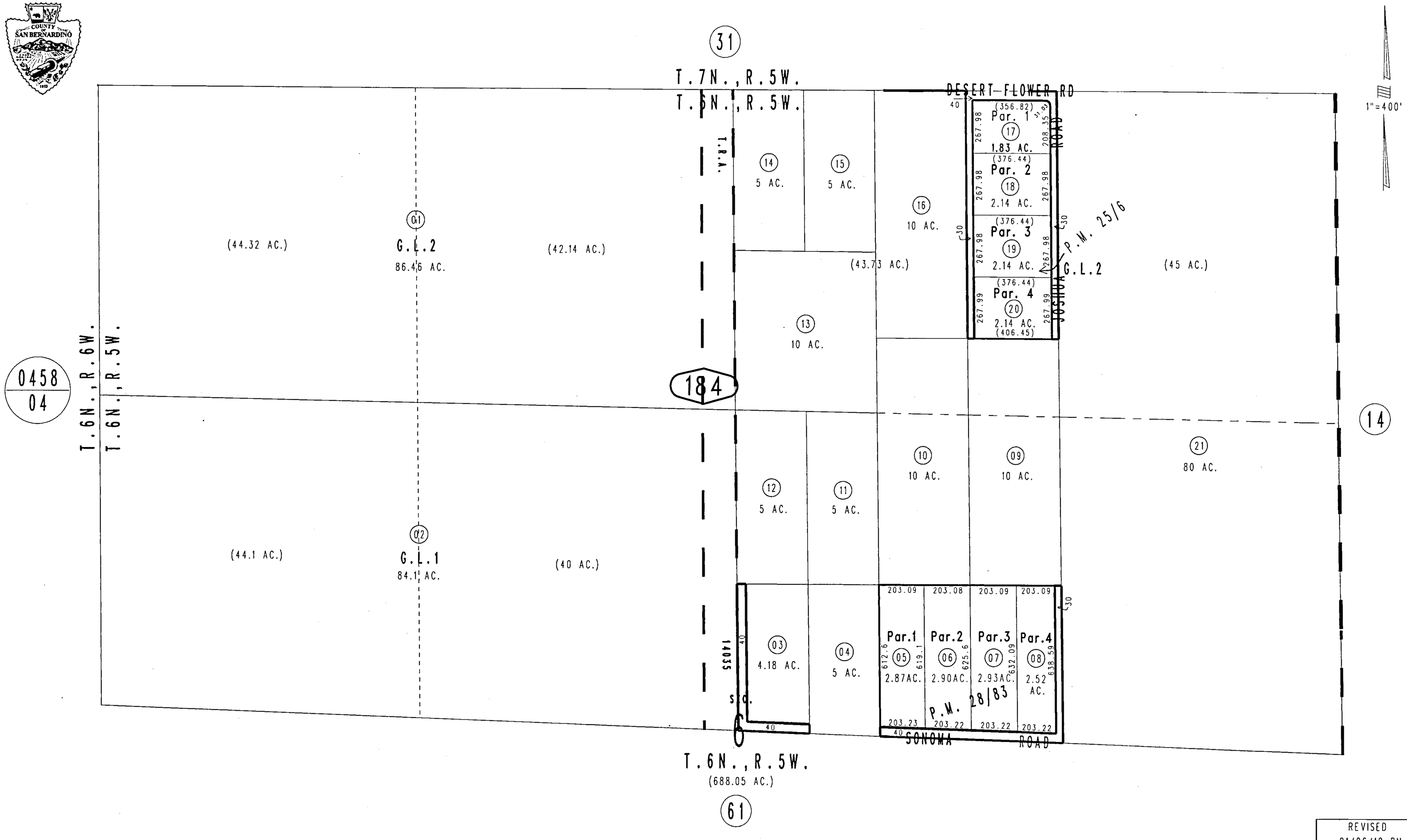
Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056**

THIS MAP IS FOR THE PURPOSE OF AD VALOREM TAXATION ONLY.

N.1/2 Fractional Sec.6, T.6N.,R.5W., S.B.B.&M.

City of Adelanto
Tax Rate Area
14032 14035

0460- 18



Parcel Map No. 3150, P.M. 28/83
Parcel Map No. 2702, P.M. 25/6

June 2004

Assessor's Map
Book 0460 Page 18
San Bernardino County

REVISED
01/06/12 RM

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APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	Baldy Mesa Phase II Site 1
	Adelanto CA
Project No:	
Report Type:	*Database Report*
Order No:	*20191113051*
Requested by:	*Terracon Consultants, Inc.*
Date Completed:	*November 14, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as database review of environmental records.

License for use of information in Report: No page of this report can be used without this cover page, this notice and the project property identifier. The information in Report(s) may not be modified or re-sold.

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Executive Summary

Property Information:

Project Property:		*Site 2* *Site 2 Adelanto CA*
Project No:		
Coordinates:		
	Latitude:	*34.641921*
	Longitude:	*-117.438104*
	UTM Northing:	*3,833,421.88*
	UTM Easting:	*459,848.82*
	UTM Zone:	*UTM Zone 11S*
Elevation:		*2,739 FT*

Order Information:

Order No:	*20191113051*
Date Requested:	*November 13, 2019*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials Photographs*
City Directory Search	*CD - 4 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*
terraDOCS Report	*terraDOCS (Terracon)*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	0	-	-	0
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	0	0	-	0
DELISTED LST	Y	.5	0	0	0	0	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	0	-	-	0
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	0	0	-	-	0
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
SANBERN CUPA	Y	.25	0	0	0	-	-	0
Additional Environmental Records								
Federal								
PFAS NPL	Y	.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
PFAS	Y	.5	0	0	0	0	-	0
PFAS GW	Y	.5	0	0	0	0	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	0	-	-	-	0
DELISTED HAZ	Y	.5	0	0	0	0	-	0
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	0	0	-	-	0
CDL	Y	.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental databases were selected to be included in the search.***							
Total:			*0*	*0*	*0*	*0*	*0*	*0*

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

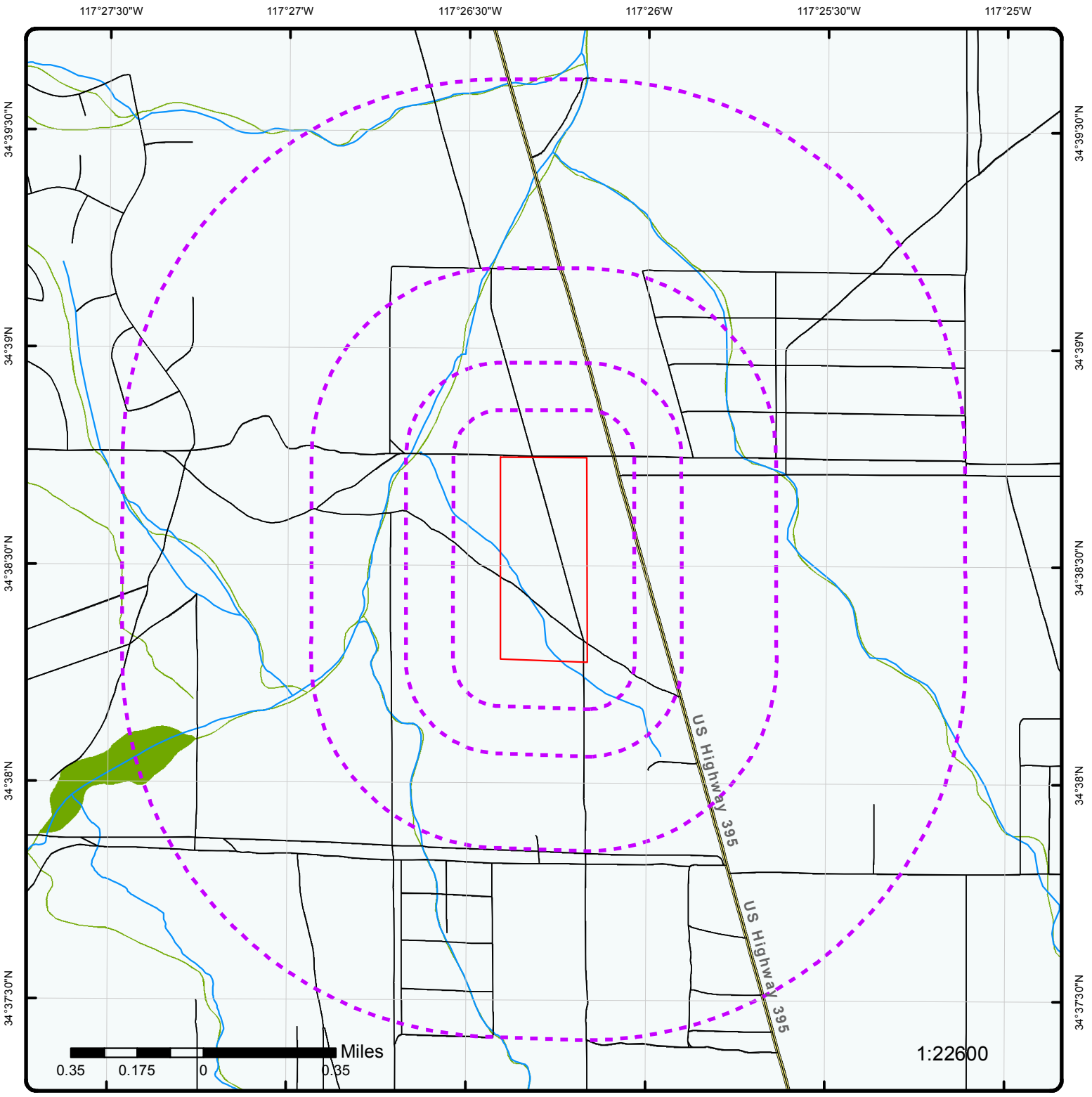
Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the surrounding properties.

Executive Summary: Summary by Data Source

No records found in the selected databases for the project property or surrounding properties.



Map : 1 Mile Radius

Order No: 20191113051

Address: Site 2, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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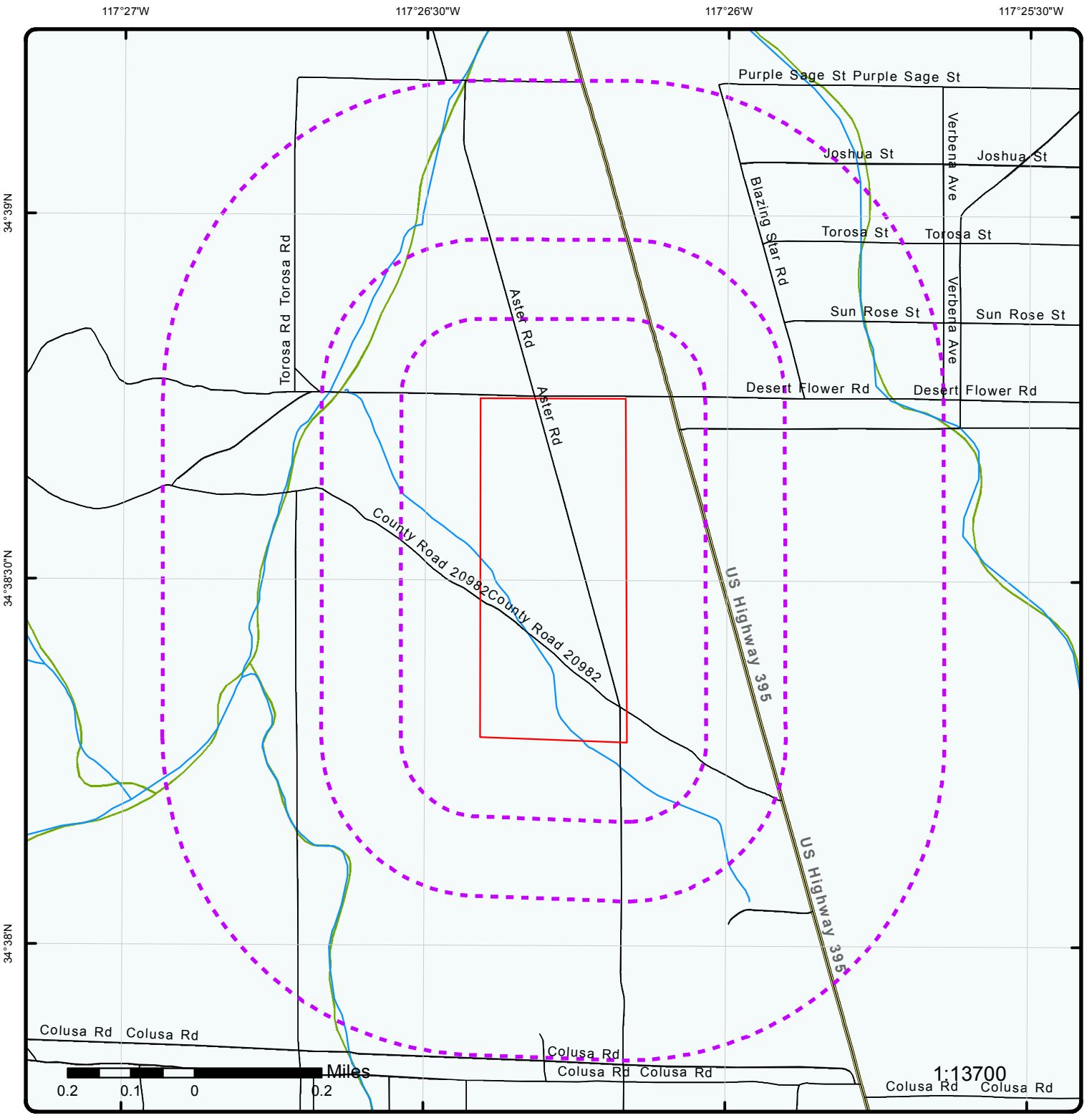

Map : 0.5 Mile Radius

Order No: 20191113051

Address: Site 2, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

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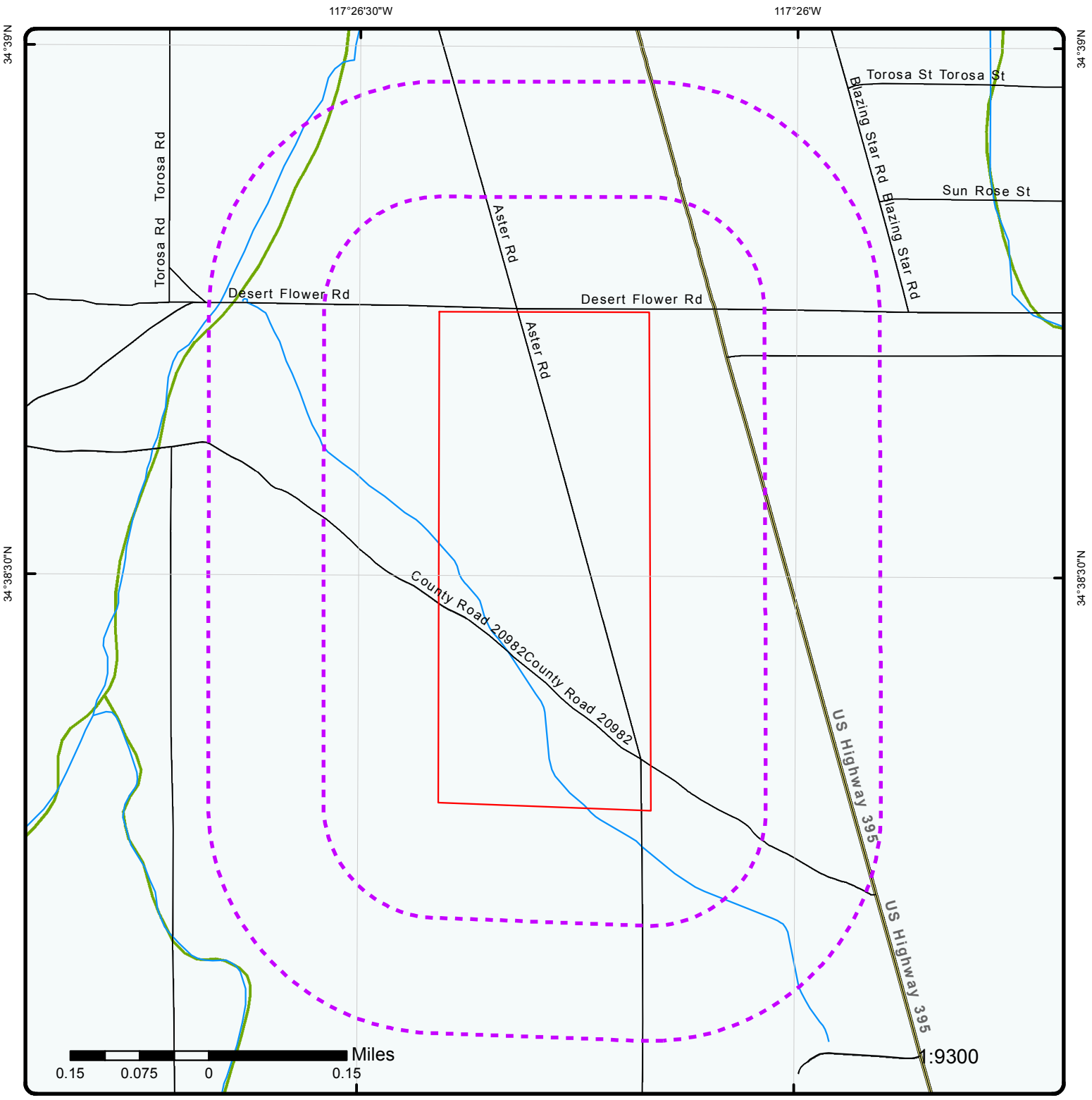

Map : 0.25 Mile Radius

Order No: 20191113051

Address: Site 2, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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Aerial (2018)

Order No: 20191113051

Address: Site 2, Adelanto, CA

Source: ESRI World Imagery

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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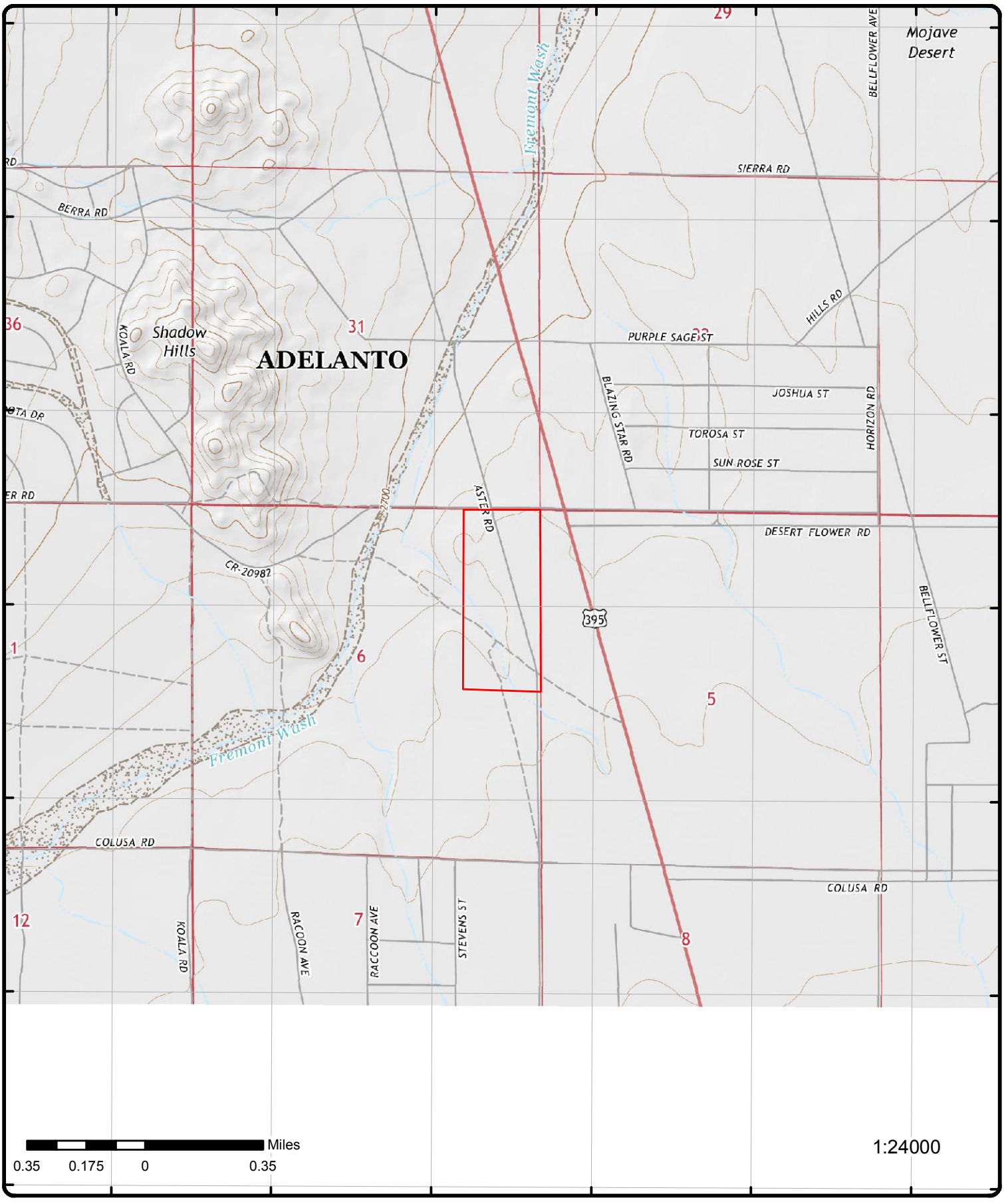

Topographic Map (2015)

Address: Site 2, Adelanto, CA

Quadrangle(s): Victorville NW,CA

Source: USGS Topographic Map

Order No: 20191113051

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

No records found in the selected databases for the project property or surrounding properties.

Unplottable Summary

Total: 9 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		US 395 NB @ NORTH END OF CITY	SAN BERNARDINO CA		820127253
CHMIRS	Caltrans	State Route 395 Mile Marker 12.2	Adelanto CA		867280855
CHMIRS	barstow chp	us 395 7 mi north of shadow mtn	CA		860469140
HAZNET	CALTRANS DISTRICT 8	HIGHWAY 395 S/B MM 34	ADELANTO CA	92301	826619683
HIST CHMIRS		HWY 395, 6 MI S/O KRAMEL J.	UNINC CA		826020107
HIST CHMIRS	KVS TRANS. INC.	US 395 7 MILES N/OF SHADOW MT.	UNINC CA		826022036
HIST MANIFEST		HWY 395 6 MILES NORTH	-- CA	935160000	827511783
HMIRS		STATE ROUTE 395	ADELANTO CA		818285478
HMIRS		US HWY 395	ADELANTO CA		818245237

Unplottable Report

Site:
US 395 NB @ NORTH END OF CITY SAN BERNARDINO CA CDL

Clue:	1997-12-135
Date:	12/29/1997
County:	SAN BERNARDINO
Lab Type:	M
Lab Type Description:	Mobile Lab - location where illegal drug lab equipment and materials were found in a vehicle or other mode of transport.

Site: ***Caltrans***
State Route 395 Mile Marker 12.2 Adelanto CA CHMIRS

Clean Control No:		***Notified Date:***	12/15/2017 11:56:00 AM
Notified Date Time:		***Year:***	2017
County:	San Bernardino County		
URL:			

California Hazardous Material Incident Report System (2017)

Contained:	Yes	***Incident Date:***	12/15/2017
1 Substance:	Diesel	***Incident Time:***	30
1 Quantity:	100	***Spill Site:***	Road
1 Measure:	Gal(s)	***Injuries?:***	No
1 Type:	PETROLEUM	***No of Injuries:***	1
1 Pipeline:	No	***Fatals?:***	No
1 Vessel >= 300 Tons:	No	***No of Fatals:***	
1 Other:		***Evacs?:***	Yes
2 Substance:		***No of Evacs:***	1
2 Quantity:		***Cleanup:***	Contractor
2 Measure:		***Site:***	
2 Type:		***Cause:***	Collision
2 Other:		***Cause Other:***	
2 Pipeline:	No	***Drinking Wtr Imp:***	No
2 Vessel >= 300 Tons:	No	***Known Impact:***	None
3 Substance:		***Water:***	No
3 Quantity:		***Water Way:***	
3 Measure:		***City:***	Adelanto
3 Type:		***County:***	San Bernardino County
3 Other:		***Zip:***	
3 Pipeline:	No	***DOG No:***	
3 Vessel >= 300 Tons:	No		

Admin Agency:	San Bernardino County Fire Department
Notification Area:	AA/CUPA,DTSC,RWQCB,US EPA,USFWS,Co/Hlth,Co/E-Hlth
Location:	State Route 395 Mile Marker 12.2
Description:	RP states that approx. 100 gallons of diesel was released onto the road (South bound shoulder) due to vehicle accident, 1 reported fatality. The release is contained and cleanup is underway. No waterways impacted

Spill Report View

Amount 1:		***Creation Date:***	12/15/2017 11:56 AM
Amount 2:		***Received By:***	
Amount 3:		***Admin Agency:***	
Type:	PETROLEUM	***Admin Agency 2:***	
Water:		***Additional County:***	
On Scene:		***Phone No:***	
Other on Scene:		***Ext:***	
Other Notified:		***Pag Cell:***	

Document Title: SPILL Report
Spill Site: Road
Cause Desc for Other:
Person Notifying Cal OES:

Hazardous Materials Spill Report

Control Cal OES:	17-8907	***Type 3:***	
Control NRC:		***Other 3:***	
Date :	12/15/2017	***Pipeline 3:***	No
Incident Date:	12/15/2017	***Ves >= 300 Tons 3:***	No
Time:	1156	***Name:***	
Incident Time:	0030	***Phone:***	
Water Involved:	No	***Ext:***	
Drink Wtr Impact:	No	***Pag Cell:***	
Qty 1:	=	***PRS Name:***	
Measure 1:	Gal(s)	***PRS Phone:***	
Type 1:	PETROLEUM	***PRS Ext:***	
Pipeline 1:	No	***PRS Pag Cell:***	
Ves >= 300 Tons 1:	No	***Received By:***	
Qty 2:	=	***Header Unknown:***	MOJAVE DESERT AQMD
Amount 2:		***Incident Desc:***	
Measure 2:		***R R Crssing < 50 Ft:***	
Type 2:		***Uprr Rim :***	
Other 2:		***Notification Info:***	
Pipeline 2:	No	***Notification List:***	
Vessel >= 300 Tns 2:	No	***DOG Unit:***	
Qty 3:	=	***RWQCB Unit:***	6B
Amount 3:		***Injuries:***	No
Measure 3:		***Fatality:***	No

Incident Location: State Route 395 Mile Marker 12.2
Reported Cause: Collision
Amount 1: 100
Substance 1: Diesel
Substance 2:
Substance 3:
Waterway:
Contained: Yes
Known Impact: None
Other 1:
Detail for Other:
Site: Road
On Scene: Cal Trans, Fire Dept., Sheriff Ofc.
Other on Scene:
Other Notified:
Evacuation: Yes
Evacs #: 1
Cleanup By: Contractor
Agency: Caltrans
PRS Agency:
Admin Agency: San Bernardino County Fire Department
Sec Agency:
Additional County:
Admin Agency 2:
Description: RP states that approx. 100 gallons of diesel was released onto the road (South bound shoulder) due to vehicle accident, 1 reported fatality. The release is contained and cleanup is underway. No waterways impacted

---

Site: ***barstow chp***
us 395 7 mi north of shadow mtn CA

CHMIRS

Clean Control No:		***Notified Date:***	1/24/1994
Notified Date Time:	06:08:17 AM	***Year:***	1994
County:	SAN BERNARDINO		
URL:			

California Hazardous Material Incident Report System (as of 1993 to 1996)

Contained:	NO	***Incident Date:***	0523/01-24-94

Substance:	crude	***Injuries?:***	NO
Type:		***Fatals?:***	
Qty:		***Evacs?:***	
Other:		***Cleanup:***	unknown
Measure:		***Site:***	RD
Amount:	40 gallons	***City:***	
Water:		***County:***	SAN BERNARDINO
Water Way:		***Zip:***	
Location:	us 395 7 mi north of shadow mtn		
Description:	two big rigs collided head on		

Site: ***CALTRANS DISTRICT 8***
HIGHWAY 395 S/B MM 34 ADELANTO CA 92301

HAZNET

SIC Code:	0116	***Mailing City:***	SAN BERNARDINO
NAICS Code:	11111	***Mailing State:***	CA
EPA ID:	CAC002725837	***Mailing Zip:***	92401
Create Date:	4/8/2013	***Region Code:***	4
Fac Act Ind:	No	***Owner Name:***	CALTRANS
Inact Date:	7/8/2013	***Owner Addr 1:***	464 W 4TH ST
County Code:	36	***Owner Addr 2:***	
County Name:	San Bernardino	***Owner City:***	SAN BERNARDINO
Mail Name:		***Owner State:***	CA
Mailing Addr 1:	464 W 4TH ST	***Owner Zip:***	92401
Mailing Addr 2:		***Owner Phone:***	9093834702
Owner Fax:			

Contact Information

--	--
Contact Name:	CALTRANS
Street Address 1:	464 W 4TH ST
Street Address 2:	
City:	SAN BERNARDINO
State:	CA
Zip:	92401
Phone:	9093834702
--	--

Site:
HWY 395, 6 MI S/O KRAMEL J. UNINC CA

HIST CHMIRS

OES Control NO:	9098306	***Incident Date:***	9/3/1990
Release Factors:	Intentional Act,Suspicious Act,Abandoned,Other	***Date Reported:***	9/3/1990
Release Text:	,,,	***Fatalities:***	0
Equipm Involved:	No Equip Involved	***Other Injury:***	0
Action Taken Text:		***Other Decon:***	0
Chemicals:	DRUG LAB WASTE	***Other Fatal:***	0
Case Number:		***Vehicle:***	
HazMat Other:		***State:***	
HM Injury:	0	***CA DOT PUC ICC:***	
Decon:	0	***Company Name:***	
Agency Name:	SAN BERNARDINO CDEHS	***County:***	SAN BERNARDINO
HazMat Pers:			
Action Taken:	63,Establish Safe Area,ID/Analysis of Hazmat,Investigate,Remove Hazard (Neutralize)		
More than three involved?:	1		

Site: ***KVS TRANS. INC.***
US 395 7 MILES N/OF SHADOW MT. UNINC CA

HIST CHMIRS

OES Control NO:	9400416	***Incident Date:***	1/24/1994
Release Factors:	Collision/Overturn	***Date Reported:***	1/24/1994
Release Text:		***Fatalities:***	0
Equipm Involved:	Vehicular Fuel System	***Other Injury:***	0
Action Taken Text:		***Other Decon:***	0
Chemicals:	MOTOR FUEL (DIESEL)	***Other Fatal:***	0
Case Number:		***Vehicle:***	KENWORTH 1990

HazMat Other:	,HEALTH,CO. ENV.,	***State:***	CA
HM Injury:	0	***CA DOT PUC ICC:***	SP03345
Decon:	0	***Company Name:***	KVS TRANS. INC.
Agency Name:	CHP	***County:***	SAN BERNARDINO
HazMat Pers:	Off-site Fire Services,,Other,DOT Manual		
Action Taken:	63,Contain/Control Hazmat,Emergency Medical Services,ID/Analysis of Hazmat,Investigate,Remove Hazard (Neutralize),Traffic Control,Transport		
More than three involved?:	2		

Site:

HWY 395 6 MILES NORTH -- CA 935160000

HIST MANIFEST

Gen EPA ID:	CAD000308692
Create Date:	9/25/1986 0:00:00
Inact Date:	01/01/1991 0:00
Facility Mail Street:	--
Facility Mail City:	BORON
Facility Mail State:	CA
Facility Mail Zip:	935160000
Contact Phone(s):	6197625161
File Year(s):	1986
Contact Name(s):	PAUL JUTRAS

Tanner Information

Method Description:	
Tons:	0
Year:	1986
Generator County Code:	36
Generator County:	San Bernardino
Method Code:	
Tsd County Code:	19
Tsd County:	Los Angeles
State Waste Code:	
State Waste Code Desc:	
Tsd Epa ID:	CAD067786749

Tanner Information

Method Description:	
Tons:	12.64
Year:	1986
Generator County Code:	36
Generator County:	San Bernardino
Method Code:	D80
Tsd County Code:	19
Tsd County:	Los Angeles
State Waste Code:	151
State Waste Code Desc:	Asbestos containing waste
Tsd Epa ID:	CAD067786749

Site:

STATE ROUTE 395 ADELANTO CA

HMIRS

Incident County:	SAN BERNARDINO

HMIR Incident Reports

Report No:	I-1994090932	***Fed DOT Agency Nm:***	
Report Type:	A hazardous material incident	***Fed DOT Report No:***	
Date of Incident:	08/17/1994	***Report Submit Src:***	Paper
Time of Incident:	2300	***Inc Multiple Rows:***	Yes
Haz Class Code:	9	***Inc Non US State:***	
Hazardous Class:	MISCELLANEOUS HAZARDOUS MATERIAL	***Mode Transport:***	Highway
Commodity Short Nm:	ENVIRONMENTALLY HAZARDOU	***Transport Phase:***	IN TRANSIT
Commodity Long Nm:	ENVIRONMENTALLY HAZARDOUS	***Incident Occrrnce:***	

SUBSTANCES SOLID N.O.S.

Trade Name:		***Mat Ship Approval?:***	No
ID No:	UN3077	***Mat Ship Approv No:***	
Haz Waste Ind:	No	***Undecl Hazmat Ship?:***	No
Haz Waste EPA No:		***Packaging Type:***	Non-Bulk
HMIS Tox Inhalation?:	No	***Packing Group:***	
TIH Hazard Zone:		***Carrier Reporter:***	ROAD RUNNER TRUCKING INC
Qty Released:	5	***CR Street Name:***	501 INDUSTRIAL AVE NE
Unit of Measure:	LGA	***CR City:***	ALBUQUERQUE
What Failed:	161	***CR State:***	NM
What Failed Desc:	Weld or Seam	***CR Postal Code:***	87107-2262
How Failed Code:		***CR Non US State:***	
How Failed Desc:		***CR Fed DOT ID:***	27297
Failure Cause Code:		***CR Hazmat Reg ID:***	
Failure Cause Desc:		***CR Country:***	US
Ident. Markings:		***Shipper Name:***	TECH-IRON INC
Cont1 Pkging Type:		***Shipper Street Name:***	16980 RACOON AVE
Cont1 Const Mat:		***Shipper City:***	ADELANTO
Cont1 Head Type:		***Shipper State:***	CA
Cont1 Pkg Capacity:	250	***Shipper Postal:***	92301-2250
C1 Capacity UOM:	LGA	***Shipper Non US St:***	
Cont1 Pkg Amt:		***Shipper Country:***	US
C1 Pkg Amt UOM:		***Shipper Waybill:***	648677
Cont1 Pkg No:	33	***Ship Hazmat Reg ID:***	
C1 Pkg NO Failed:	1	***Origin City:***	ADELANTO
Cont1 Pkg Mnfctr:	NOT REPORTED BY CARRIER	***Origin State:***	CALIFORNIA
Cont1 Pkg Mnfct Dt:		***Origin Postal:***	
Cont1 Pkg Serial NO:		***Origin Non US St:***	
C1 Pkg Last Test Dt:		***Origin Country:***	US
C1 Test Const Mat:		***Destination City:***	BELLINGHAM
C1 Pkg Dsign Pres.:		***Destination State:***	WASHINGTON
C1 Dsign Press UOM:		***Destination Postal:***	98227
C1 Pkg Shell Thick:		***Destination Non US:***	
C1 Shell Thick UOM:		***Destination Country:***	US
C1 Head Thickness:		***Cont2 Package Type:***	
C1 Head Thick UOM:		***Cont2 Const Mat:***	
C1 Pkg Srvc Pres.:		***Cont2 Pkg Capacity:***	
C1 Srvc Press UOM:		***Cont2 Capacity UOM:***	
C1 Valve/Device Fail?:	No	***Cont2 Pkg Amount:***	
C1 Device Type:		***Cont2 Pkg Amt UOM:***	
C1 Device Mnfctr:		***Cont2 Pkg No:***	
C1 Device Model:		***Cont2 Pkg No Failed:***	
NRC No:			

RAM Pkg Category:		***Haz NonHosp Public:***	0
RAM Pkg Cert.:	FALSE	***Haz NonHosp Old:***	0
RAM Pkg Cert. NBR:		***Tot Haz Non Hosp Inj:***	0
RAM Nuclide S:		***Total Hazmat Injuries:***	0
RAM Transport Index:		***Evacuation Indicator:***	No
RAM UOM:		***Public Evacuated:***	0
RAM Activity Rpted:		***Employees Evac:***	0
RAM UOM Rpted:		***Total Evacuated:***	0
RAM Activity:		***Total Evacuation Hrs:***	0
RAM Activity UOM:		***Major Artery Closed:***	No
RAM Mat Safety:		***Mjr Artery Hrs Closed:***	0
Spillage Result:	Yes	***Material Involved:***	No
Fire Result:	No	***Estimated Speed:***	0
Explosion Result:	No	***Weather Conditions:***	
Water Sewer Result:	No	***Vehicle Overturn:***	No
Gas Dispersion:	No	***Vehicle Left Roadway:***	No
Environment Damage:	No	***Passenger Aircraft:***	No
No Release Result:	No	***Cargo Baggage:***	
Fire EMS Report:	No	***Ship Non Transport:***	No
Fire EMS EMS Report:		***Ship Air First Flight:***	No
Police Report:	No	***Ship Air Subflight:***	No
Police Report No:		***Ship Init Transport:***	No
In House Cleanup:	No	***Ship Phase Transfer:***	No
Other Cleanup:	No	***Contact Name:***	LEN YODER
Damage > 500:	No	***Contact Title:***	DIRECTOR OF SAFETY
Material Loss:	0	***Contact Business:***	
Carrier Damage:	0	***Contact Street:***	

Property Damage:	0	***Contact City:***	
Response Cost:	0	***Contact State:***	
Remediation Cost:	0	***Contact Postal:***	
Damage Old Form:	0	***Contact Non US St:***	
Total Damages Amt:	0	***Contact Country:***	US
Hazmat Fatality:	No	***Inc. Report Prepared:***	
Haz Fatal Employees:	0	***HMIS Serious Incidnt:***	No
Haz Fatal Respndrs:	0	***HMIS Serious Fatality:***	No
Haz Fatal Gen Public:	0	***HMIS Serious Injury:***	No
Tot Hazmat Fatalities:	0	***HMIS Flight Plan:***	No
Non Hazmat Fatality:	No	***HMIS Serious Evacs:***	No
Non Hazmat Fatals:	0	***HMIS Major Artery:***	No
Hazmat Injury:	No	***HMIS Bulk Release:***	No
Haz Hospital Empl:	0	***HMIS Marine Pollutnt:***	No
Haz Hospital Resp:	0	***HMIS Radioactive:***	No
Haz Hosp Gen Public:	0	***HMIS Gen Pkg Type:***	OHMIR.Ref_Container.descr_txt
Haz Hosp Old Form:	0	***HMIS Container Code:***	BAG PLS
Total Haz Hosp Inj:	0	***HMIS Container Desc:***	Plastic bag (cont1 for solid materials)
Haz Non Hosp Empl:	0	***HMIS Bulk Incident:***	No
Haz Non Hosp Resp:	0	***Undeclared Shipment:***	No

Description of Events:

(A - C) ON AUGUST 16 AND 17 1994 THREE ROADRUNNER TRUCKING UNITS: 9568-4529 COMP.648676 ED NEWCOMB* 9470-4567 COMP.648677 PAUL CAMPBELL* 9777-5017 COMP.648678 JOE ANDREWS* WERE LOADING AT TECH-IRON ADELANTO CA WITH 22 PALLETS OF SUPERSACKS ON EACH TRAILER. THE PRODUCT WAS TENDERED AS FERROUS SULFATE UN3077 A HAZARDOUS SUBSTANCE NOT A HAZARDOUS MATERIAL. FOUR BLOCKS FROM THE SHIPPER THE ADELANTO CA POLICE STOPPED ALL THREE UNITS AT DIFFERENT TIMES BUT IN THE SAME GENERAL AREA. THE FIRE DEPARTMENT WAS CALLED AND THE DRIVERS WERE TOLD THE SUPER-SACKS WERE LEAKING AND THAT THE PRODUCT WAS SULFURIC ACID WHICH IS A HAZARDOUS MATERIAL AND HAS AT LEAST FIVE DIFFERENT UN OR NA NUMBERS. ALL THREE UNITS WERE ESCORTED BACK TO THE SHIPPER AND THE TRAILERS WERE DROPPED AND IMPOUNDED BY THE POLICE DEPARTMENT FOR ENVIRONMENTAL VIOLATIONS CAUSED BY TECH-IRON. THE MORNING OF AUGUST 17 1994 BEGINNING AROUND 7:00 A.M. ATTEMPTS WERE MADE BY PAM MUSGRAVES TO CONTACT AT LT. GUNDERSON OF THE ADELANTO CA POLICE DEPARTMENT WHO WAS IN CHARGE OF THE CONFISCATION OF THE LOADS. AT 8:20 A.M. (AUGUST 17 1994) LEN WAS ABLE TO CONTACT A TOM DALLING OF TECH-IRON WHO SAID HE KNEW NOTHING ABOUT THE THREE LOADS. WHILE I WAS TALKING TO HIM THE LOCAK POLICE ARRIVED AT THE FACTORY AND MR. DALLING SAID HE WOULD CALL ME BACK. A FEW MINUTES LATER LT. GUNDERSON CALLED AND HE TOLD ME WHAT HAPPENED AND WHY: TECH-IRON HAS BEEN UNDER SURVEILLANCE FOR ENVIRONMENTAL PROBLEMS. THEY HAVE NO LICENSE OR PERMITS TO OPERATE THE KIND OF FACILITY THEY ARE RUNNING. TECH-IRON HAS SET ROADRUNNER UP AND YOU (ROADRUNNER) HAVE BECOME AN INNOCENT VICTIM OF THESE VIOLATIONS I ASKY YOU? GUNDERSON STATED THAT THE PRODUCT IS SULFURIC ACID AND NOT FERROUS SULPHATE . I ASKED WHY THE THREE UNITS WERE STOPPED AND GUNDERSON STATED THAT SOME OF THE SACKS ON EACH TRAILER WERE LEAKING. ALSO IT WAS THOUGHT THAT ROADRUNNER WAS IN ON THE VIOLATIONS BUT IT WAS LEARNED AT ONCE THAT THIS WAS NOT TRUE. THE PRODUCT WAS DAMAGING OUR TRAILERS AND THE TRAILER TARPS AND TIE DOWN EQUIPMENT MUST ALL BE DECONTAMINATED. THE EPA WAS SCHEDULE TO ARRIVE AT TECH-IRON ON AUGUST 17 1994 FOR AN INSPECTION. I ASKED LT. GUNDERSON IF THERE WERE ANY CHARGES PENDING AGAINST ROADRUNNER AND HE STATE NO WAY . HE FURTHER STATED TECH-IRON WAS RESPONSIBLE FOR ALL DECONTAMINATION OF OUR EQUIPMENT. AT THAT POINT HE SAID HE HAD TO GO AND THE CONVERSATION WAS OVER BUT COULD BE RESUMED LATER IF NEEDED. LT. GUNDERSON'S TELEPHONE NUMBER IS (619)254-6572. LATER THIS MORNING I VISITED WITH ALL THREE DRIVERS. EACH DRIVER WILL BE SENDING ME A STATEMENT AS TO WHAT HAPPENED WITH EACH OF THEM FROM THEIR ARRIVAL AT TECH-IRON TO THE TIME THEY DROPPED THEIR TRAILERS BACK AT TECH-IRON. ON AUGUST 17 1994 AT 5:15 P.M. MIKE KHOUDARY CALLED LEN AT HOME AND SAID CATHY PERRY WAS ON THE TELEPHONE STATING THAT THE THREE (3) TRAILERS AT ADELANTO CA WERE SETTING IN THE STREET. IT WAS MY UNDERSTANDING FROM OUR DRIVERS THAT

Recommend Actions Taken:

Site:

US HWY 395 ADELANTO CA

HMIRS

Incident County: SAN BERNARDINO

HMIR Incident Reports

Report No:	I-1989110571	***Fed DOT Agency Nm:***	
Report Type:	A hazardous material incident	***Fed DOT Report No:***	
Date of Incident:	10/30/1989	***Report Submit Src:***	Paper
Time of Incident:	0650	***Inc Multiple Rows:***	No
Haz Class Code:	5.1	***Inc Non US State:***	
Hazardous Class:	OXIDIZER	***Mode Transport:***	Highway

Commodity Short Nm:	AMMONIUM NITRATE FERTILI	***Transport Phase:***	IN TRANSIT
Commodity Long Nm:	AMMONIUM NITRATE FERTILIZERS	***Incident Occrrnce:***	
Trade Name:		***Mat Ship Approval?:***	No
ID No:	UN2067	***Mat Ship Approv No:***	
Haz Waste Ind:	No	***Undecl Hazmat Ship?:***	No
Haz Waste EPA No:		***Packaging Type:***	Portable Tank
HMIS Tox Inhalation?:	No	***Packing Group:***	
TIH Hazard Zone:		***Carrier Reporter:***	T & T TRUCKING INC.
Qty Released:	2780	***CR Street Name:***	11396 N HWY 99
Unit of Measure:	SLB	***CR City:***	LODI
What Failed:	;	***CR State:***	CA
What Failed Desc:	;	***CR Postal Code:***	95240-6899
How Failed Code:	;	***CR Non US State:***	
How Failed Desc:	;	***CR Fed DOT ID:***	216337
Failure Cause Code:	531; 537	***CR Hazmat Reg ID:***	
Failure Cause Desc:	Rollover Accident; Vehicular Crash or Accident Damage	***CR Country:***	US
Ident. Markings:		***Shipper Name:***	FRENCH CAMP WAREHOUSE
Cont1 Pkging Type:		***Shipper Street Name:***	8858 S PRIEST RD
Cont1 Const Mat:		***Shipper City:***	FRENCH CAMP
Cont1 Head Type:		***Shipper State:***	CA
Cont1 Pkg Capacity:		***Shipper Postal:***	95231
C1 Capacity UOM:		***Shipper Non US St:***	
Cont1 Pkg Amt:		***Shipper Country:***	US
C1 Pkg Amt UOM:		***Shipper Waybill:***	
Cont1 Pkg No:	1	***Ship Hazmat Reg ID:***	
C1 Pkg NO Failed:	1	***Origin City:***	FRENCH CAMP
Cont1 Pkg Mnfctr:	NOT REPORTED BY CARRIER	***Origin State:***	CALIFORNIA
Cont1 Pkg Mnfct Dt:		***Origin Postal:***	95231
Cont1 Pkg Serial NO:		***Origin Non US St:***	
C1 Pkg Last Test Dt:		***Origin Country:***	US
C1 Test Const Mat:		***Destination City:***	LAGUNA HILLS
C1 Pkg Dsign Pres.:		***Destination State:***	CALIFORNIA
C1 Dsign Press UOM:		***Destination Postal:***	
C1 Pkg Shell Thick:		***Destination Non US:***	
C1 Shell Thick UOM:		***Destination Country:***	US
C1 Head Thickness:		***Cont2 Package Type:***	
C1 Head Thick UOM:		***Cont2 Const Mat:***	
C1 Pkg Srvc Pres.:		***Cont2 Pkg Capacity:***	
C1 Srvc Press UOM:		***Cont2 Capacity UOM:***	
C1 Valve/Device Fail?:	No	***Cont2 Pkg Amount:***	
C1 Device Type:		***Cont2 Pkg Amt UOM:***	
C1 Device Mnfctr:		***Cont2 Pkg No:***	
C1 Device Model:		***Cont2 Pkg No Failed:***	
NRC No:			

RAM Pkg Category:		***Haz NonHosp Public:***	0
RAM Pkg Cert.:	FALSE	***Haz NonHosp Old:***	0
RAM Pkg Cert. NBR:		***Tot Haz Non Hosp Inj:***	0
RAM Nuclide S:		***Total Hazmat Injuries:***	0
RAM Transport Index:		***Evacuation Indicator:***	No
RAM UOM:		***Public Evacuated:***	0
RAM Activity Rpted:		***Employees Evac:***	0
RAM UOM Rpted:		***Total Evacuated:***	0
RAM Activity:		***Total Evacuation Hrs:***	0
RAM Activity UOM:		***Major Artery Closed:***	No
RAM Mat Safety:		***Mjr Artery Hrs Closed:***	0
Spillage Result:	Yes	***Material Involved:***	Yes
Fire Result:	No	***Estimated Speed:***	40
Explosion Result:	No	***Weather Conditions:***	
Water Sewer Result:	No	***Vehicle Overturn:***	No
Gas Dispersion:	No	***Vehicle Left Roadway:***	No
Environment Damage:	No	***Passenger Aircraft:***	No
No Release Result:	No	***Cargo Baggage:***	
Fire EMS Report:	No	***Ship Non Transport:***	No
Fire EMS EMS Report:		***Ship Air First Flight:***	No
Police Report:	No	***Ship Air Subflight:***	No
Police Report No:		***Ship Init Transport:***	No
In House Cleanup:	No	***Ship Phase Transfer:***	No
Other Cleanup:	No	***Contact Name:***	DAN BADGER
Damage > 500:	No	***Contact Title:***	D.O.T. SUPERVISOR

Material Loss:	232	***Contact Business:***	
Carrier Damage:	0	***Contact Street:***	
Property Damage:	0	***Contact City:***	
Response Cost:	0	***Contact State:***	
Remediation Cost:	0	***Contact Postal:***	
Damage Old Form:	0	***Contact Non US St:***	
Total Damages Amt:	232	***Contact Country:***	US
Hazmat Fatality:	No	***Inc. Report Prepared:***	
Haz Fatal Employees:	0	***HMIS Serious Incidnt:***	Yes
Haz Fatal Respndrs:	0	***HMIS Serious Fatality:***	No
Haz Fatal Gen Public:	0	***HMIS Serious Injury:***	No
Tot Hazmat Fatalities:	0	***HMIS Flight Plan:***	No
Non Hazmat Fatality:	No	***HMIS Serious Evacs:***	No
Non Hazmat Fatals:	0	***HMIS Major Artery:***	No
Hazmat Injury:	No	***HMIS Bulk Release:***	Yes
Haz Hospital Empl:	0	***HMIS Marine Pollutnt:***	No
Haz Hospital Resp:	0	***HMIS Radioactive:***	No
Haz Hosp Gen Public:	0	***HMIS Gen Pkg Type:***	OHMIR.Ref_Container.descr_txt
Haz Hosp Old Form:	0	***HMIS Container Code:***	TANK TRL
Total Haz Hosp Inj:	0	***HMIS Container Desc:***	Tank trailer semi-trailer or full trailer (two axles)
Haz Non Hosp Empl:	0	***HMIS Bulk Incident:***	Yes
Haz Non Hosp Resp:	0	***Undeclared Shipment:***	No

Description of Events: THE ACCIDENT WAS DUE TO DRIVER NEGLECT. THE DRIVER FAILED TO PERFORM ADEQUA TE PRE-TRIP INSPECTION. THE BREAKS WERE OUT OF ADJUSTMENT AND THE AIR VALVE WAS HUT OFF TO THE REAR OF TRAILER. THUS WHEN FORCED TO TRY AND STOP SUDD ENLY DUE TO TRAFFIC CONDITIONS THE TRAILERS JACKNIFED CAUSING AN OVERTURN THE SPILLED AMMONIUM NITRATE WAS CLEANED UP BY CAL-TRANS.

Recommend Actions Taken:

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Aug 20, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Aug 20, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Aug 20, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Aug 20, 2019

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Aug 20, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Aug 26, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Aug 26, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Aug 26, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Aug 26, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Aug 26, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Aug 26, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jun 11, 2019

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jun 11, 2019

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Oct 8, 2019

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Aug 20, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Aug 20, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Oct 1, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Oct 1, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Oct 1, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Aug 19, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Oct 1, 2019

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Jul 17, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jul 17, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Oct 8, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 17, 2019

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Oct 8, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Sep 11, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Oct 1, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Sep 23, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jul 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Oct 1, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jul 17, 2019

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Oct 4, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Aug 19, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

County

San Bernardino County - CUPA List: SANBERN CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in San Bernardino County. This list is made available by San Bernardino County Fire Department which is the CUPA for all areas of the County except the city of Victorville.

Government Publication Date: Oct 17, 2019

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Nov 15, 2018

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Aug 12, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Sep 26, 2019

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Aug 20, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: May 3, 2019

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Oct 1, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: May 31, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jul 17, 2019

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.Y

Government Publication Date: Oct 17, 2019

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Aug 27, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Jul 16, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Oct 1, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jul 15, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Jul 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Jul 17, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Jennifer S. Van

Project Manager



PROFESSIONAL EXPERIENCE

Ms. Van is an Environmental Group Manager in Terracon's Orange County, California Office. She has over seven years of experience in Environmental Services; Phase I Environmental Site Assessments (ESAs), Limited Subsurface Investigations (LSIs), Spill Prevention, Control and Countermeasure Plans, Radon Measurement Provider. In addition, Ms. Van has some experience with regulatory compliance. Ms. Van assists with client and team management.

PROJECT EXPERIENCE

Environmental Site Assessment (ESAs):

Performed and managed hundreds of ESAs in California and several in Hawaii and Alaska for industrial, commercial, residential, and agricultural properties. Managed long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers and other real property owners. Understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water and groundwater. Is experienced in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined in Section 312.10 of 40 CFR 312.

Radon Assessments

Performed and managed over 10 radon assessments including commercial and residential in California.

Limited Subsurface Investigations (LSIs):

Performed and managed over 10 LSI's in California. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data.

Spill Prevention, Control And Countermeasure Plans (SPCCs)

Ms. Van has experience with federal and state requirements for Spill Prevention, Control and Countermeasure Plans for Tier I and II qualified facilities.

EDUCATION

Bachelor of Science,
Environmental Sciences: Natural Sciences.
Minor: Business Administration
University of California Riverside, California, 2011.

Masters: Environmental Engineering
California State University, Fullerton, 2018

CERTIFICATIONS

24-Hour AHERA Asbestos Abatement Building Inspector
40-Hour OSHA HAZWOPER
National Radon Proficiency Program
Residential Measurement Provider

WORK HISTORY

Terracon Consultants, Inc. (Tustin, CA). Environmental Group Manager
February 2018 to Present

Terracon Consultants, Inc. (Irvine, CA). Senior Staff Scientist
2014 to February 2018

Terracon Consultants, Inc. (Irvine, CA). Staff Scientist
August 2011 to 2014

Regulatory Compliance, Buena Park and Tipton, California
Project Manager for two regulatory compliance projects in Buena Park and Tipton, California, which included refrigeration and multiple dairy facilities.

Military Base Phase I ESAs and Soil Management Plans – San Diego County, California
Project Manager of ESAs and SMPs of over 100 sites for proposed telecommunication small cell locations within naval bases located within the San Diego County. Findings of the ESAs were utilized in creation of the SMPs, which was implemented at the installation of telecommunications utilities on the various bases.

Automotive Body Shop Portfolio, California
Portfolio assistant manager of environmental consulting services including Phase I ESA. The purpose of the services were to assist a client with a large acquisition of properties.

Resumes

Islam (Sami) R. Noaman, EIT

Senior Associate / Senior Project Manager



PROFESSIONAL EXPERIENCE

Mr. Noaman is an Environmental Department Manager with track record in client management, management of phases of environmental site assessments (ESAs), industrial hygiene services, business environmental risk reviews, site characterizations, regulatory compliance services, and remedial investigation. He possesses excellent analytical, problem solving, advisory, and team management skills.

PROJECT EXPERIENCE

Stormwater Prevention and Pollution Control Plan (SWPPP):
Managed SWPPP for numerous industrial sites in Southern California. Scope of the work typically included client and agency coordination, implementation of guidelines required by the state of California Water Resources Board (SWRB), and preparation of documentations for submittals to the SWRB. In addition, I have managed several limited regulatory compliance projects (annual submittals and Level 1 ERA reporting) for industrial stormwater, to achieve compliance in accordance with the NPDES general permit requirements.

Limited Subsurface Investigations (LSIs):
Performed and managed hundreds of LSIs in California, New Jersey, and New York. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data to pursue closure through state and federal programs including Los Angeles County Site Mitigation Unit, the California Regional Water Quality Control Board, and the Department Of Toxic Substances Control Voluntary Cleanup Programs (VCP).

Hazardous Materials Surveys:
Mr. Noaman is the Industrial Hygiene Manager in the Orange County, California office. He managed numerous hazardous materials surveys in the state of california including, but not limited to, asbestos, lead in paint, mold, pcbs, and mercury-containing equipment.

EDUCATION

Bachelor of Science, Chemistry/Environmental Chemistry, 2002, City University of New York, City College of New York

Pursuing Masters in Environmental Engineering (California State University Fullerton-expected graduation date Spring 2019)

CERTIFICATIONS

Certified Engineer In Training (CA) Certification No. EIT 171371
40-Hour OSHA Hazardous Waste Operations & Emergency Response Training Course

WORK HISTORY

Terracon Consultants, Inc. (Irvine, CA), Environmental Group/Department Manager, June 2012 to Present

Smith Emery GeoServices (SEG), (Los Angeles, CA), Project Engineer, August 2008 to June 2012

KLK Environmental Group LLC. (Kearny, NJ). Environmental Scientist -August 2003 to June 2008

UniChem Inc. (Kearny, NJ). Staff Environmental Chemist - August 2002 to June 2003

Islam (Sami) R. Noaman, EIT (continued)

Major Department Store Commercial Retail Portfolio:
Environmental team lead for evaluating environmental site conditions and due diligence review, including overseeing Phase I Environmental Site Assessments and Phase II Environmental Site Investigations for over thirty retail facilities with automotive maintenance across California. Findings from subsurface investigations were used to support regulatory closure of select facilities to facilitate a real estate transaction across the United States.

Industrial Facility – Land-use Change/Private School, Los Angeles, CA:
Environmental consulting services including Phase I Environmental Site Assessments (ESA) due diligence support, subsurface investigation activities to evaluate environmental media including soil, soil gas and indoor / outdoor air. Services included a land-use change from an industrial facility to a private school. Prepared environmental investigation reports, regulatory interaction, corrective action design for indoor air mitigation, and work plan for management of environmental media.

Retail Shopping Center – Former Dry Cleaners Facility – DTSC, Fremont, CA:
Conducted extensive site investigation activities to evaluate the magnitude and extent of chlorinated solvents identified in the vicinity of a former dry cleaners facility, including an evaluation of groundwater, soil, soil-gas and indoor vapors as a result of a chlorinated solvent plume. Project responsibilities consisted of direct support and interaction with client, client legal team and DTSC representatives to manage the closure process, including the preparation of work plans and environmental investigation reports, risk-based human health evaluation, and response actions.

Underground Storage Tank Assessment and Monitoring – West Los Angeles, CA:
Assisted property owner with the regulatory closure of former underground storage tank (UST) site located in West Los Angeles, California. The project scope included historical research of past site use and site characterization, including soil, groundwater and soil gas assessments, followed by groundwater monitoring until closure was achieved.

Automated Fuel Dispensing Facilities – Camp Pendleton, California:
Project scope included environmental and geotechnical investigations at six fueling existing/proposed facilities within Camp Pendleton, California. The project consisted of construction of new buildings, canopies, pavements, retaining walls, slopes, and installation of underground storage tanks (USTs), and other site facilities. Served as the environmental group leader.

Emerson College, Hollywood, California:
Conducted comprehensive investigation and assisted the client through enrolling and interacting with the LAFD regarding USTs found during construction activities. Provided construction management oversight to manage impacted soils and assisted the client in waste disposition, permitting and regulatory compliance interaction. A total of 45,000 cubic yards of soil was removed from the site and disposed at an off-site facility, prior to the construction of a mid-rise school complex. Support services allowed for significant savings in construction, on an expedited timeline in concert with the construction schedule.

Los Angeles Unified School District (LAUSD Sites):
Managed soil characterization for export/import soils for over nine Los Angeles Unified School District (LAUSD) sites. Prepared Sample Strategy Plans (SSP) for stockpiled and in-place soils, oversaw the sampling, and prepared soil certification reports under the supervision of a professional geologist for submittal to the LAUSD Office of Environmental Health.

Islam (Sami) R. Noaman, EIT (continued)

Newton Plastics, Newton, NJ:

Managed the removal of two 12,000-gallon (solvents & gasoline containing) USTs from a plastic products manufacturing facility as a part of transaction deal. Project tasks included, work plan preparation, regulatory officials interface, client contact/coordination, oversight of removal activities, and report preparation. No further action letter from NJDEP was obtained for the client. The property value was retained for the client with our consulting services.

Eagle Electric, Queens, NY:

Responsibilities were to manage the cleanup of former Coal storage rooms in basement of a landmark building in Queens, NY. The cleanup activities included, hauling of approximately 425 tons of Class N-1 Hazardous materials, managed and ensured safety of eight to twelve crew, handling of waste manifests, and coordination for transportation / disposal and client interface.

AROL Chemicals, Newark, NJ:

Managed Phase I and Phase II ESA of chemical manufacturing facility. Scope of Phase II ESA included, the removal of three 12,000-gallon USTs, excavation and disposal of impacted soils.

KeySpan Energy, NY:

Responsibilities include inspection and maintenance of client boilers and tanks systems. Objectives were to prevent scaling/rusting in the boiler systems resulting from the plant operations to maintain operations efficiency. Goals were achieved for the client by developing environmentally friendly chemical reagents (pH controlled) to mitigate the concerns at the plant, boilers maintenance issues were resolved and steady business was created for the company.

The HACH Company, OH:

Implementing unique techniques producing Ferrozine - Iron- reagent for determining trace levels of iron in chemical reagents and glycols. Ferrozine can also be used to analyze samples containing magnetite (black iron oxide) or ferrites.

KIWA of The Netherlands:

Research and development of new synthetic methods of alkali Ferrates including, Potassium, Sodium, and Barium ferrates, an environmentally friendly oxidative reagents used in wastewater treatment for municipal and industrial facilities.

Resumes

Fabio M. Minervini, PG

Environmental Department Manager



PROFESSIONAL EXPERIENCE

Mr. Minervini is a Geologist (P.G.) licensed to practice in the states of California and Oregon with over 20 years of experience in environmental services. He is familiar with all aspects of the environmental industry. During his career, he has managed hundreds of investigation and remediation projects involving soil, groundwater, and soil gas issues; vapor intrusion issues from migrating impacted soil gas; and dissolved plumes, at times commingled with plumes originating at other sources. Mr. Minervini has evaluated and interpreted assessment data, as well as designed groundwater monitoring programs. His experience includes proposing and evaluating the feasibility of various remedial technologies and subsequently managed the engineering design, installation, and operation and maintenance of a variety of remedial systems. In addition, he has provided litigation support related to hydrocarbon contamination at retail fuel stations.

Mr. Minervini has interacted with a variety of regulatory agencies in California in the form of maintaining projects in compliance with agency requirements, as well as proposed work in the voluntary assistance programs on behalf of his clients.

Mr. Minervini has also been responsible for the management of non-technical duties such as conducting job interviews and hiring decisions, as well as annual performance reviews and compensation adjustments, for a team of more than 10 employees.

EDUCATION
Bachelor of Science, Geology, University of California Los Angeles, 1991

REGISTRATIONS
Professional Geologist: California, No. 7861

Registered Geologist: Oregon, No. G2477

CERTIFICATIONS
40-Hour HAZWOPER

Petroleum Education Council, Certification No. 1001022451

Radiation Safety and Use of Nuclear Gauges, Certification No. 21966

AFFILIATIONS
Western States Petroleum Association (WSPA)

National Ground Water Association

Other Affiliations

PROJECT EXPERIENCE

Tesoro Refining and Marketing Company, LLC
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Lead Scoper (and Lead Executer after September 2008) for the Orange County Portfolio (yearly revenue approximately $2.5 million). Managed technical and financial aspects associated with the assessment and remediation of leaking underground storage tank cases in Orange County, California.

Fabio M. Minervini, PG (continued)

ConocoPhillips
Managed site assessment and characterization, groundwater investigation and monitoring, and site remediation for service stations impacted by petroleum hydrocarbon releases in San Mateo County, California.

Atlantic Richfield Company (ARCO)
Managed the assessment of releases from underground storage tanks, the investigation and monitoring of dissolved hydrocarbon plumes, and the remediation of ARCO Stations in the California Desert/East Los Angeles Portfolio.

California Department of General Services
Managed assessment and monitoring of dissolved petroleum hydrocarbons from leaking underground storage tanks at various sites in Merced, Santa Barbara, Riverside, and San Diego Counties, California. Obtained case closure from the Riverside County Department of Environmental Health Services for the forest fire station in Temecula, California.

Kern County General Services Division
Managed ground water monitoring and remediation of the dissolved petroleum hydrocarbons plume originated from the leak of an underground tank storing gasoline at the fire station in Bear Valley Springs, California.

Orange County District Attorney
Managed the third party technical oversight project pertaining to the legal settlements between the Orange County District Attorney Office and Atlantic Richfield Company, and Shell Oil. The role of the third party consultant was to independently review the corrective action at ARCO and Shell gas stations in Orange County, California and provide recommendations, as warranted.

UST Fund Commingled Plume Site No. 00024
Managed under the California Underground Storage Tank Reimbursement Fund Account the site assessment, remediation, and monitoring of the petroleum hydrocarbon impacted soil and ground water at the commingled plume site consisting of ARCO Station 0087 and former Unocal Station 5865 in Hawthorne, California.

Dunn-Edwards Corporation
At a property in Escondido, California, formerly a Unocal service station, managed multiple phases of investigation and characterization of petroleum hydrocarbon impacted soil and ground water.

Dunn-Edwards Corporation
At a property leased in Long Beach, California, obtained a ”no further action” letter from the City of Long Beach Department of Environmental Health Services for the self-initiated site assessment related to the operation and maintenance of a 10,000-gallon underground storage tank storing paint thinner.

Fabio M. Minervini, PG (continued)

Boeing Realty Corporation
Conducted and reported site characterization activities related to the contamination by diesel fuel at the STEVS Unit on the Boeing plant in Huntington Beach, California.

Bradmore Realty Investment Company
Conducted Phase I Investigations for real estate transactions at sites in Los Angeles County, California.

ARCO Products Company
At various service stations in Los Angeles, Orange, and San Diego Counties, California, managed the site characterization, remediation, and groundwater monitoring programs. Managed the removal and replacement of underground storage tanks, and the complete demolition of service stations. Provided technical support in litigation related to petroleum hydrocarbon contamination at service stations in Orange County, California.

Various Responsible Parties
Reviewed files related to environmental issues at various agencies in Southern California.

San Diego Naval Station
Performed investigation and risk assessment study for petroleum hydrocarbon- and metals-impacted sites in the San Diego Harbor, California.

Marine Corps Air Base
Conducted pilot-scale ground water extraction test for remediation of the dissolved-phase trichloroethylene (TCE) and tetrachloroethylene (PCE) plumes at the base in Tustin, California.

Coto de Caza, Private Residential Community
Assisted in the fixation of lead project at the gun range in Coto de Caza, California.

Allied-Signal Chemical Plant
Conducted soil-gas investigation of halogenated volatile organics plume in vadose zone at the plant in El Segundo, California.

Shell/Parsons Reservoirs
Performed two phases (floor and berms) of mitigation by soil blending, remediation by thermal desorption, and closure with low permeability cap of crude oil reservoirs at the Tosco Refinery in Carson, California (former property of Shell Oil Company). Subcontracted by The Ralph M. Parsons Company for both environmental and geotechnical activities.

Reichhold Chemical Plant
Conducted soil-gas investigation of polychlorinated biphenyls (PCBs) in the vadose zone installing multiple completion wells with dual tube air percussion Stratex rig at the plant in Azusa, California.

Fabio M. Minervini, PG (continued)

Caltrans
Assisted in the storm water facilities retrofit evaluation for the Santa Monica Bay watershed in Los Angeles County, California.

Grayson Power Plant
Conducted HydroPunch investigation of trichloroethylene (TCE) Plume in vadose zone and ground water at the plant in Glendale, California.

Shell Offshore, Inc
Performed downhole pressure and temperature data collection, and reservoir interpretation analysis on production platform at Eugene Island Field, Block 331, Gulf of Mexico.

Conoco Oil, Inc.
Assisted in the drill stem test of multiple zones at the West Delta Field, Block 96, Gulf of Mexico.

Exxon, U.S.A.
Assisted in the perforation of multiple productive zones at the South Pass Field, Block 89, Gulf of Mexico.

Oryx Energy Company
Assisted in the flow test of the Upper Zone on the semi-submersible rig Ocean Voyager at the Mississippi Canyon Field, Block 445, Gulf of Mexico.

Leighton & Associates
Performed soil observation, sampling, and testing during mass grading and utilities installation as part of the San Joaquin Hills Transportation Corridor (Wood Canyon) Project conducted by the Mission Viejo Company in the Laguna Hills.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms

Term/Acronym	Description
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

Description of Selected General Terms and Acronyms

Term/Acronym	Description
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water 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. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix E PHASE I ENVIRONMENTAL SITE ASSESSMENTS

E.3 PHASE I ENVIRONMENTAL SITE ASSESSMENT BALDY MESA SOLAR PHASE II SITE 2

Phase I Environmental Site Assessment

Baldy Mesa Solar Phase II – Site 2

APNs: 045804232, 045804237, 045804261,

045804262, 045804263 and 045804284

Adelanto, San Bernardino County, California 92301

January 20, 2020

Terracon Project No. 60197507.2



Prepared for:

Sustainable Power Group, LLC (sPower)
Long Beach, California

Prepared by:

Terracon Consultants, Inc.
Tustin, California

January 20, 2020

Sustainable Power Group, LLC (sPower)
5000 East Spring Street, Suite 130
Long Beach, California 90815

Attn: Mr. Dallas Pugh
P: (562) 348-1119
E: dallas.pugh@spower.com

Re: **Phase I Environmental Site Assessment**
Baldy Mesa Solar Phase II – Site 2
APNs: 045804232, 045804237, 045804261, 045804262, 045804263 and 045804284
Adelanto, San Bernardino **County**, California 92302
Terracon Project No. 60197507.2

Dear Mr. Pugh:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed **information on all of Terracon's** services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Jennifer S. Van
Environmental Group Manager

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

for Fabio M. Minervini, P.G.
California Licensed Geologist No. 7861

Attachments

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APPENDICES

APPENDIX A Exhibit 1 - Topographic Map, Exhibit 2 - Site Diagram

APPENDIX B Site Photographs

APPENDIX C Historical Documentation and User Questionnaire

APPENDIX D Environmental Database Information

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APPENDIX F Description of Terms and Acronyms

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019 and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Jennifer S. Van and Meg Haile performed the site reconnaissance on November 26, 2019.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is located approximately 670 feet west of the intersection of Calusa Road and El Privelgio Street in Adelanto, San Bernardino County, California 923001 (County of San Bernardino Accessor Parcel Numbers (APNs): 045804232, 045804237, 045804261, 045804262, 045804263 and 045804284). The site consists of approximately 102.08 acres of irregular-shaped tract of undeveloped land. At the time of reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on review of historical information, the site consisted of undeveloped land from as early as 1948 through the late 1970s, when a road was observed on traversing the central-northern portion of the site. Since the late 1970s, the site has remained unchanged through the present.

The surrounding properties consisted of undeveloped land with as early as 1948 through the late 1950s, when additional trails and unimproved roads were apparent on the surrounding properties.

Records Review

Terracon reviewed selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies. The site was not identified on the regulatory database. A review of federal state environmental regulatory database information did not identify regulated facilities within the search radii.

Site Reconnaissance

During the site reconnaissance, Terracon observed approximately two cubic yards of household waste and clothes were observed. Recognized environmental conditions (RECs) were not identified.

Adjoining Properties

The property north of the site consists of undeveloped land. The property to the east of the site consists of undeveloped land followed by El Privelegio Street. Colusa Road abuts the southern boundary of the site. The western adjoining property consists of undeveloped land and unnamed unimproved roads. The central adjoining property is developed with Richardson Road and unnamed unimproved roads.

Significant Data Gaps

Significant data gaps were not identified.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-13 of Baldy Mesa Solar Phase II – Site 2 located approximately 670 feet west of Calusa Road and El Privelgio Street in Adelanto, San Bernardino County, California (APNs: 045804232, 045804237, 045804261, 045804262, 045804263 and 045804284). RECs or Controlled RECs (CREC) were not identified in connection with the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this site assessment, Terracon did not identify RECs in connection with the site. As such, no additional investigation is recommended at this time.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Baldy Mesa Solar Phase II – Site 2
Site Location/Address	Approximately 670 feet west of the intersection of Calusa Road and El Privelgio Street in Adelanto, San Bernardino County, California 923001 (APNs: 045804232, 045804237, 045804261, 045804262, 045804263 and 045804284).
Land Area	Approximately 102.08 Acres
Site Improvements	None
Anticipated Future Site Use	Commercial Use Solar Farm
Purpose of the ESA	Developing the Site

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.” By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- At the issuance of this report, a response has not been received from the Adelanto City Clerk, Mojave Desert Air Pollution Control District. Based on a review of the historical information and the regulatory database, the absence of these responses do not represent a data gap to the site.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Sustainable Power Group, LLC (sPower). Use or reliance by any other party is prohibited without the written authorization of Sustainable Power Group, LLC (sPower) and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Mr. Dallas Pugh, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 2740 - 2800 feet above sea level	USGS Topographic Map, Victorville NW and Adelanto California, 1993 Map (Appendix A)
Topographic Gradient	Towards southeast	
Closest Surface Water	Freemont wash, approximately 500 feet south of the site.	
Soil Characteristics		
Soil Type	Kimberlina gravelly sandy loam	San Bernardino County, California, Mojave River Area (CA671) Dated September 17, 2019
Description	The soil is well drained with 2 to 5 percent slope. Parent material consists of alluvium derived from mixed sources. Typical soil profile is gravelly sandy loam from 0 to 7 inches and gravelly sandy loam and gravelly fine sandy loam from 7 to 60 inches.	
Geology/Hydrogeology		
Formation	Q, Quaternary Deposits	

Physical Setting Information		Source
Description	Alluvium lake, playa and terrace deposits. Unconsolidated and semi-consolidated.	California Department of Conservation, Geologic Map of California, Dated 2010
Estimated Depth to First Occurrence of Groundwater	Approximate depth to groundwater in the region is approximately 144 feet below grade surface (bgs), reported at a site located approximately 1.5 northeast of the site.	GeoTracker Field Point ADS-7 5 Miles North of Adelanto Adelanto, California 92301 CIWQS Facility Place ID 204472
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the southeast).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15 year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from ERIS to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic maps:
  - Victorville, California published in **1956** (1:62,500)
  - Victorville, North West California published in **1956, 1968, 1993, and 2015 (1:24,000)**
- Aerial photographs:
  - USAF, **1948,** 1”=500’
  - USGS, **1952, 1968, 1978**, and **1995,** 1”=500’
  - ASCS, **1959,** 1”=500’

- NHAP, **1985,** 1"=500'
- NAIP**, 2005, 2010, 2012**, and **2018,** 1"=500'

Historical Maps and Aerial Photographs

Direction	Description
Site	Undeveloped land (1948-1968); dirt road through middle of site and parallel to southern border of site (1978) developed with dirt roads in western portion of the site (1985-2018)
North	Undeveloped land (1948-1968); dirt roads to the north and northwest (1978-2018)
East	Undeveloped land (1948-1959); dirt roads to the east and southeast (1978-2018)
South	Undeveloped land (1948-1959); dirt roads to the south and southeast (1968-2018)
West	Undeveloped land (1948-1959); dirt roads to the west and northwest and southwest (1968-2018)
Central Adjoining	Undeveloped land (1948-1952); dirt road to the south west (1959-2018)

3.2 Historical City Directories

City directory reviews were conducted by ERIS and address listings were not identified at the site or surrounding properties.

3.3 Site Ownership

Based on an information provided by client, Mr. Dallas Pugh, and on a review of the Stewart Title – Preliminary Report, dated June 19, 2019 the current owner is Dong Hyun Kim (APN: 045804232); based on a review of the Stewart Title – Preliminary Report, dated April 23, 2019 the current owner is Gary Gray (APN: 045804261); based on a review of the Stewart Title – Preliminary Report, dated April 23, the current owner is Seasons Land Corporations (APN:045804262); based on a review of the Stewart Title – Preliminary Report, dated June 17, 2019 the current owner is Ralph Stokes and Shirley Stokes (APNs: 045804263 and 045804284) and the current owner is Randy Swenson and Hi Ching for APN: 045804237.

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed

in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individual was interviewed regarding the current and historical use of the site.

Interviews

Interviewer	Name / Phone #	Title	Date/Time
Jennifer Van	Mr. Dallas Pugh / 562-348-1119	Permitting Manager	November 11, 2019 Via e-mail

Terracon interviewed Mr. Dallas Pugh on November 11, 2019. Mr. Pugh indicated that to his knowledge:

- The site is undeveloped land and he is not aware of on-site operations.
- Illegal dumping has taken place on the site and surrounding vicinity.
- Utility pipelines are running through the site
- The area is known to be occupied by the Desert Tortoise, Mojave Ground Squirrel, Burrowing Owl, American Badger and Kit Foxes.

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERC	Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS	0.5	0
CERL	CERCLIS Liens	Site	0
CNFR	CERCLIS - No Further Remedial Action Planned	0.5	0
EC	Federal Engineering Controls-ECs	0.5	0
ERN1	Emergency Response Notification System	Site	0
ERN2	Emergency Response Notification System	Site	0
ERNS	Emergency Response Notification System	Site	0
FBFL	The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database	0.5	0
FRS	Facility Registry Service/Facility Index	Site	0
HMIR	Hazardous Materials Information Reporting System	0.10	0
HTSC	Hist TSCA	0.10	0
IC	Federal Institutional Controls- ICs	0.5	0
IODI	EPA Report on the Status of Open Dumps on Indian Lands	0.5	0
NCDL	National Clandestine Drug Labs	Site	0
NPL	National Priority List	1	0
NPLD	Delisted NPL	0.5	0
NPLP	National Priority List - Proposed	1	0
ODI	Inventory of Open Dumps, June 1985	0.5	0
RCOR	RCRA CORRACTS- Corrective Action	1	0
RGEN	RCRA Generator List	0.25	0
RNGN	RCRA Non-Generators	0.25	0
RTSD	RCRA non-CORRACTS TSD Facilities	0.5	0
TRI	Toxics Release Inventory (TRI) Program	Site	0
TSCA	Toxic Substances Control Act	0.10	0

State/Tribal 0Databases

Database	Description	Distance (miles)	Listings
AST	Aboveground Storage Tanks	0.25	0
CDL	Clandestine Drug Lab Sites	0.10	0

Database	Description	Distance (miles)	Listings
CHMR	California Hazardous Material Incident Report System (CHMIRS)	Site	0
DEED	Deed Restrictions and Land Use Restrictions	0.5	0
ENVS	EnviroStor Database	1	0
GTCL	GeoTracker Cleanup Sites Data	0.5	0
HLUR	Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions	0.5	0
HWF	EnviroStor Hazardous Waste Facilities	1	0
ICE	EnviroStor Inspection, Compliance, and Enforcement	1	0
ILST	Leaking Underground Storage Tanks (LUSTs) on Indian Lands	0.5	0
IUST	Underground Storage Tanks (USTs) on Indian Lands	0.25	0
LDS	Land Disposal Sites	0.5	0
LUR	Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions	0.5	0
LUST	Leaking Underground Fuel Tank Reports	0.5	0
RESP	State Response Sites	1	0
SCH	School Property Evaluation Program Sites	1	0
SWAT	Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report	0.5	0
SWF	Solid Waste Information System (SWIS)	0.5	0
UST	Permitted Underground Storage Tank (UST) in GeoTracker	0.25	0
VCP	Voluntary Cleanup Program	1	0

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm.

The site is not listed in the regulatory databases.

A list of the additional reviewed databases is included in the regulatory database report included in Appendix D. A review of federal state environmental regulatory database information did not identify regulated facilities within the search radii.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report did not list facilities in the unmapped section.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
San Bernardino County Department of Environmental Health (SBCDEH) / Online form sent by e-mail EHS.CustomerService@dph.sbcounty.gov	On November 21, 2019 Terracon received a response from Jeanne Hammer, Office Assistant III with the SBCDEH stating records were not found for the site address.
Department of Toxic Substances Control / by e-mail pubreqact@dtsc.ca.gov	On November 13, 2019 Terracon received a response from Choua Her, Regional Records Coordinator with the DTSC stating records were not found for the site address.
Adelanto City Clerk (ACC) / via portal https://adelanto.nextrequest.com/requests/new	At the issuance of this report, a response has not been received.
Mojave Desert Air Pollution Control District (MDAPCD) / Online Form by email Jjochim@mdaqmd.ca.gov	At the issuance of this report, a response has not been received.
Lahontan Regional Water Quality Control Board (LRWQCB) / by e-mail lahontan@waterboards.ca.gov	At the issuance of this report, a response has not been received. In addition, Terracon researched on-line at the State Water Resource Control Board – Geotracker database and records were not identified for the site.

4.3 Local Area Knowledge

Based on a review of the California Department of Conservation Division of Oil, Gas & Geothermal Well Finder website (https://maps.conservation.ca.gov/doggr/wellfinder), there are no oil or gas production wells located at the site or surrounding areas.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Jennifer S. Van and Meg Haile
Reconnaissance Date	November 26, 2019
Weather Conditions	Sunny 66°F
Site Contact/Title	N/A

5.2 Overview of Current Site Occupants

The site is located approximately 670 feet west of the intersection of Calusa Road and El Privelgio Street in Adelanto, San Bernardino County, California 923001 (County of San Bernardino Accessor Parcel Numbers (APNs): 045804232, 045804237, 045804261, 045804262, 045804263 and 045804284). The site consists of approximately 102.08 acres of irregular-shaped tract of undeveloped land. At the time of reconnaissance, the site was observed to be unoccupied.

5.3 Overview of Current Site Operations

Consists of undeveloped land and was unoccupied at the time of the site reconnaissance.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an "X") are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint booths	
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	

Category	Item or Feature	Observed or Identified
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS or SDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wastewater lagoons	
	Wells	

Releases or Potential Releases

Trash, debris and/or other waste materials

During the site reconnaissance, Terracon observed approximately two cubic yards of household wastes and clothes scattered throughout the site. Leakage, spills or releases from these materials were not observed. Based on site observations the rubber tires and household trash do not constitute a REC on the site.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	The property north of the site consists of undeveloped land.
East	The property east of the site consists of undeveloped land and El Privelegio Street.
South	The property south of the site consists of Colusa Road and undeveloped land.
West	The property west of the site consists of undeveloped land and unnamed dirt roads.
Central Adjoining	The essential adjoining property consists of undeveloped land, Richardson Road and unnamed dirt roads.

RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

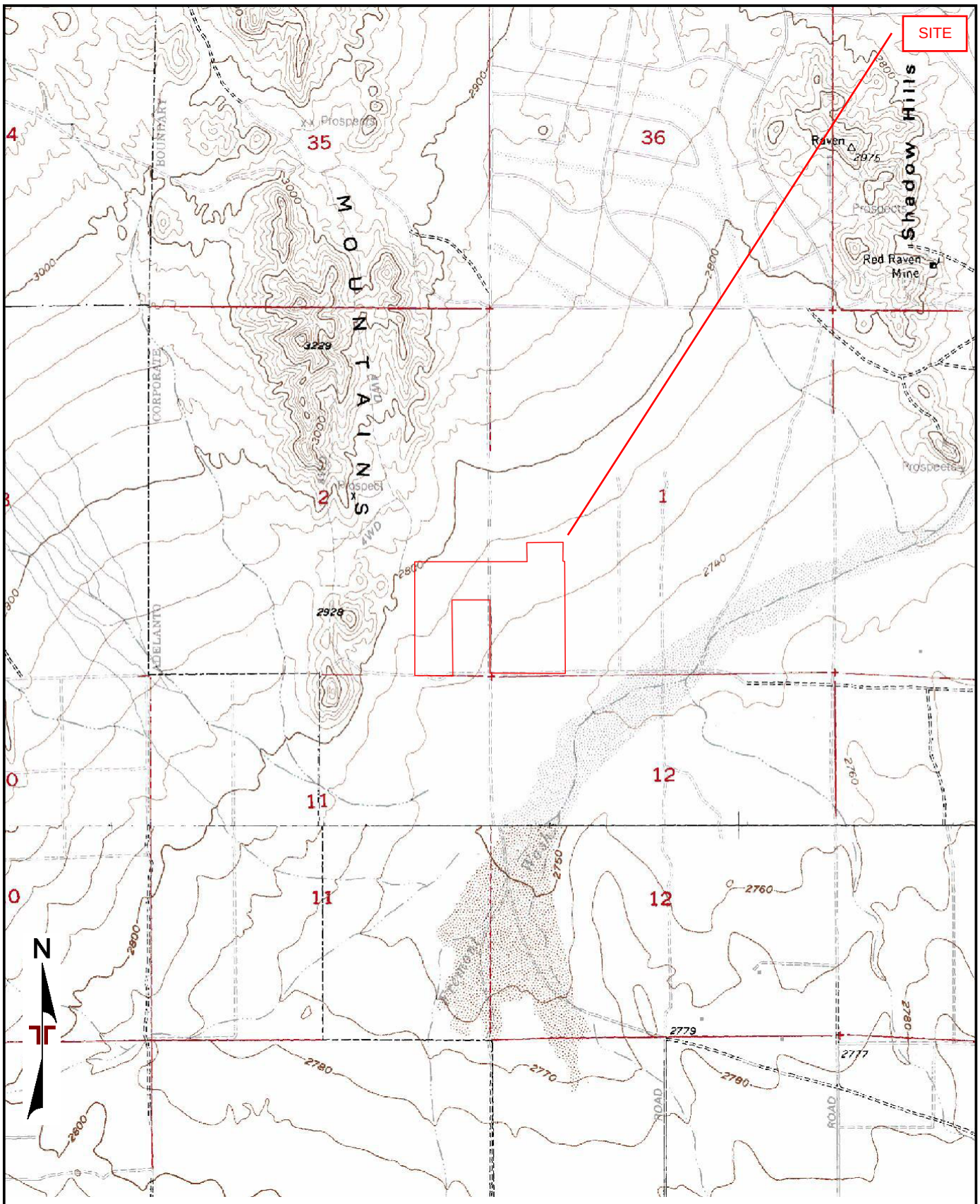
Per the agreed scope of services specified in the proposal, additional services (e.g. sampling, lead in based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

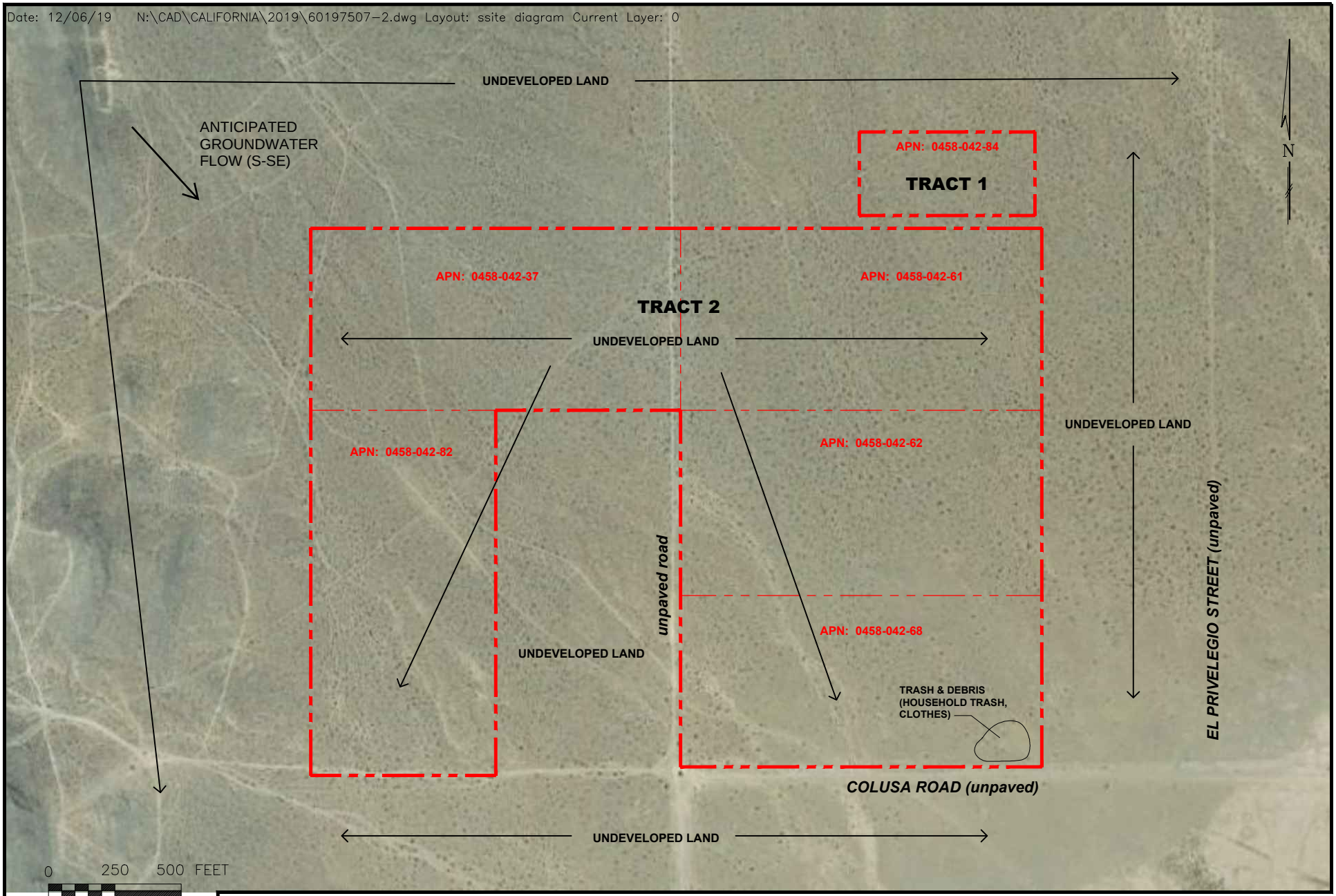
Jennifer S. Van
Environmental Group Manager

APPENDIX A
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBIT 2 – SITE DIAGRAM



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: VICTORVILLE NW, CA (1/1/1993) and ADELANTO, CA (1/1/1993).

Project Manager: JSV	Project No. 60197507	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP	Exhibit
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	1
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			



APPROXIMATE SCALE

THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

SOURCE: GOOGLE EARTH, 2019.
IMAGERY DATE: 11/25/2018

Project Mngr:	JSV
Drawn By:	CDD
Checked By:	JSV
Approved By:	IRN

Project No.	60197507.2
Scale:	AS SHOWN
Date:	12/06/19

Terracon
Consulting Engineers and Scientists
1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780
PH. (949) 261-0051 FAX. (949) 261-6110

SITE DIAGRAM

BALDY MESA SOLAR PAHSE II - SITE 2
APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

APPENDIX B
SITE PHOTOGRAPHS



Photo #1 View of the southeastern portion of the site looking west.



Photo #2 View of the southwestern portion of the site looking east.



Photo #3 View of midwestern portion of the site looking east.



Photo #4 View of northwestern portion of the site looking south.



Photo #5 Typical view of the road located along the center of the site.



Photo #6 View of northeastern portion of the site looking south.



Photo #7 View of trash and debris located on southeastern corner of the site.



Photo #8 View of essential adjoining property from central portion of the site.



Photo #9 View of adjoining property to the west from southwestern corner of the site.



Photo #10 View of adjoining property to the east from southeastern corner of the site.



Photo #11 View of adjoining property to the south from the southeastern portion of the site.



Photo #12 View of adjoining property to the north from the northern boundary of the site.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Client/User Required Questionnaire

Terracon

Person Completing Questionnaire	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Site Name	Baldy Mesa Solar - Phase II (5 sites)
Site Address	City of Adelanto, CA
Point of Contact for Access	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Access Restrictions or Special Site Requirements?	X No ___ Yes (If yes, please explain)
Confidentiality Requirements?	___ No X Yes (If yes, please explain) outlined in MSA
Current Site Owner	Name: Phone: Company: See Title Reports Email: -
Current Site Operator	Name: Phone: Company: See Title Reports Email: -
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Conditional use permit for development and operation of a photovoltaic solar utility plant.
Anticipated Future Site Use	Photovoltaic Solar Utility
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.

ASTM User Questionnaire

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___ Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___ Yes ___ Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___ Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___ Yes (If yes, explain below)

Comments or explanations:

None

Please return this form with the signed authorization to proceed. Proposal No. P60197507

ENVIRONMENTAL RISK INFORMATION SERVICES

HISTORICAL AERIALS

Project Property:	Site 2 Adelanto CA
Project No:	
Requested By:	Terracon
Order No:	20191113052
Date Completed:	November 19, 2019

Environmental Risk Information Services
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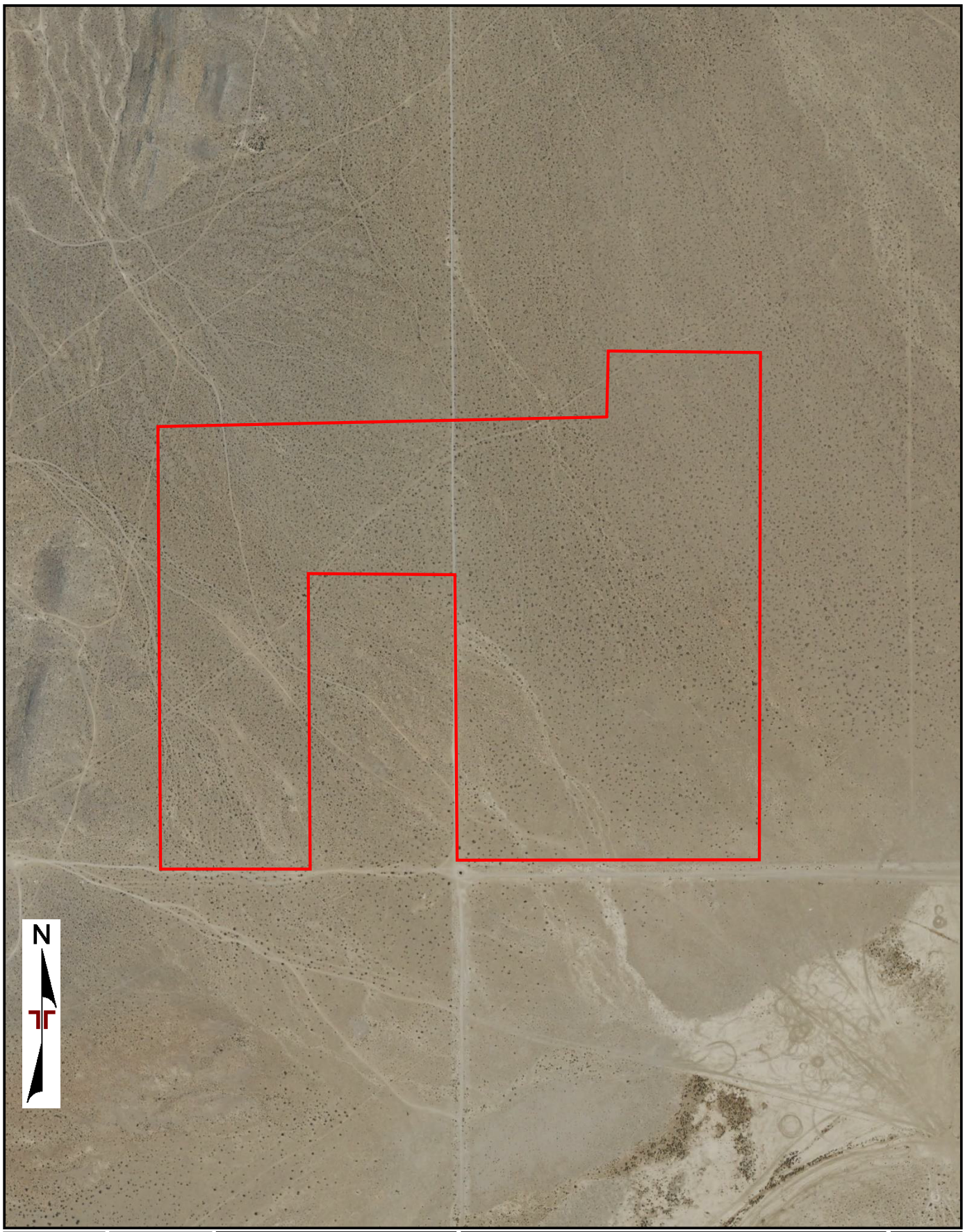
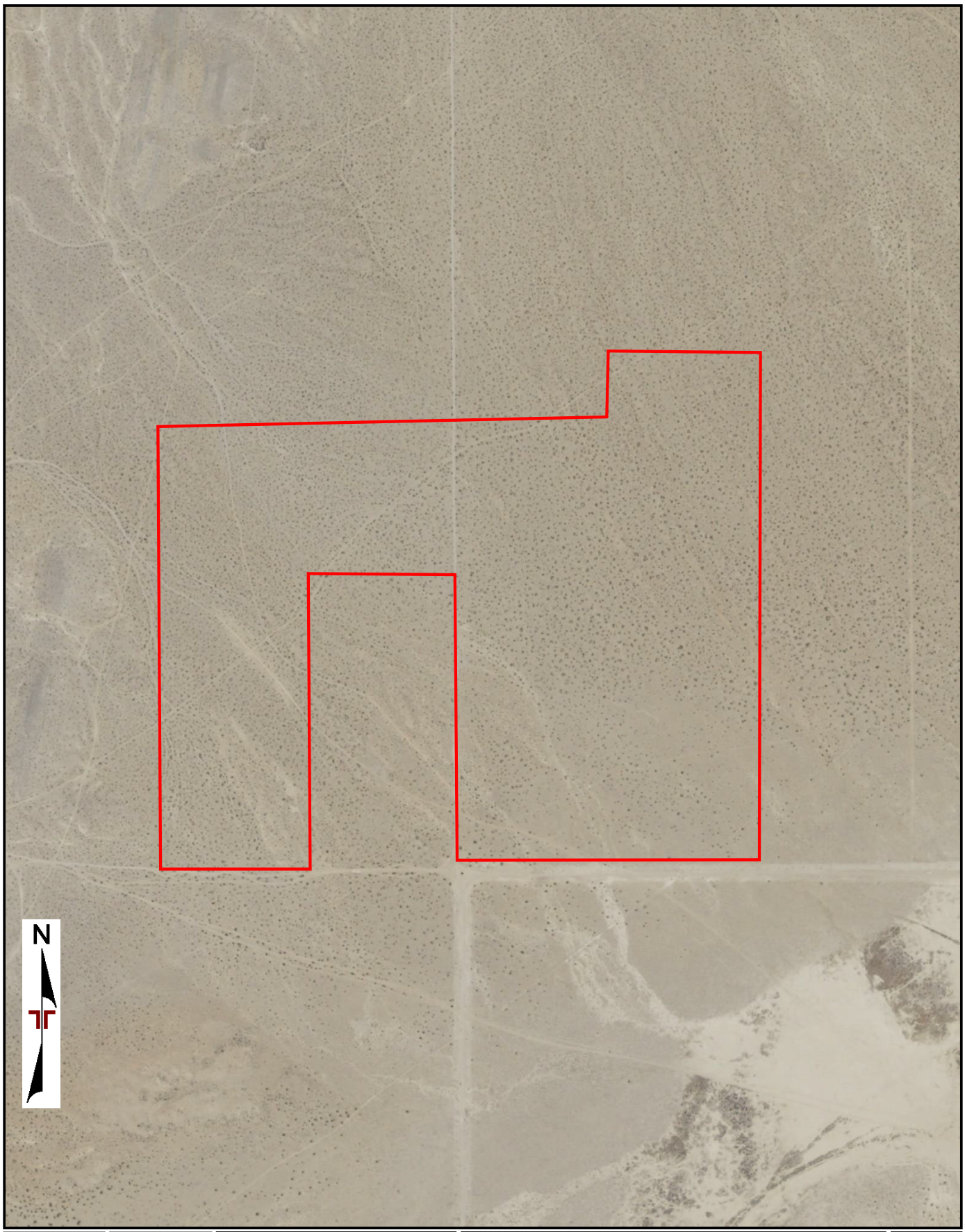
Search Results Summary

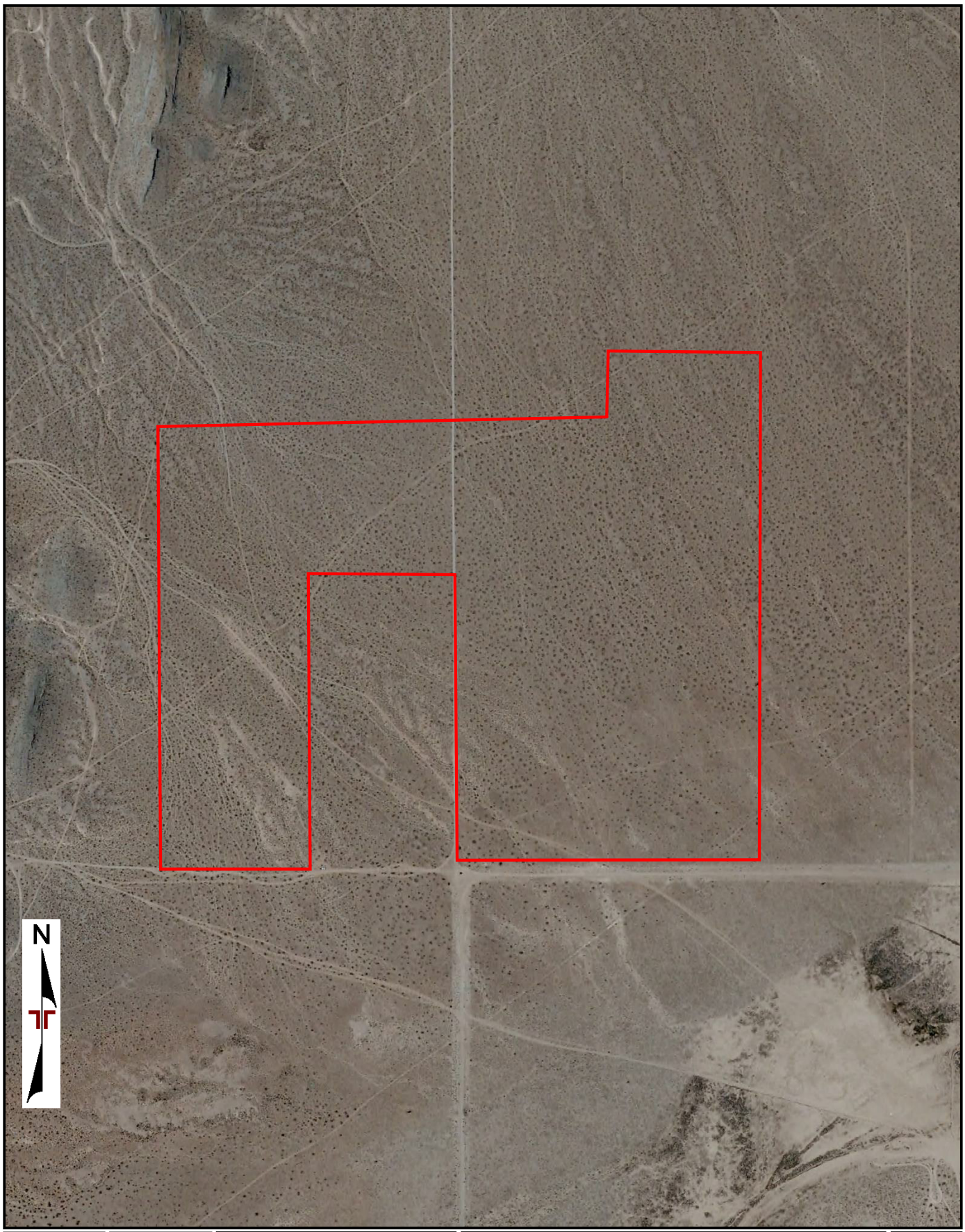
Date	Source	Source scale	Comment
2018	NAIP	1":500'	
2012	NAIP	1":500'	
2010	NAIP	1":500'	
2005	NAIP	1":500'	
1995	USGS	1":500'	
1985	NHAP	1":500'	
1978	USGS	1":500'	BEST COPY AVAILABLE
1968	USGS	1":500'	
1959	ASCS	1":500'	
1952	USGS	1":500'	
1948	USAF	1":500'	BEST COPY AVAILABLE



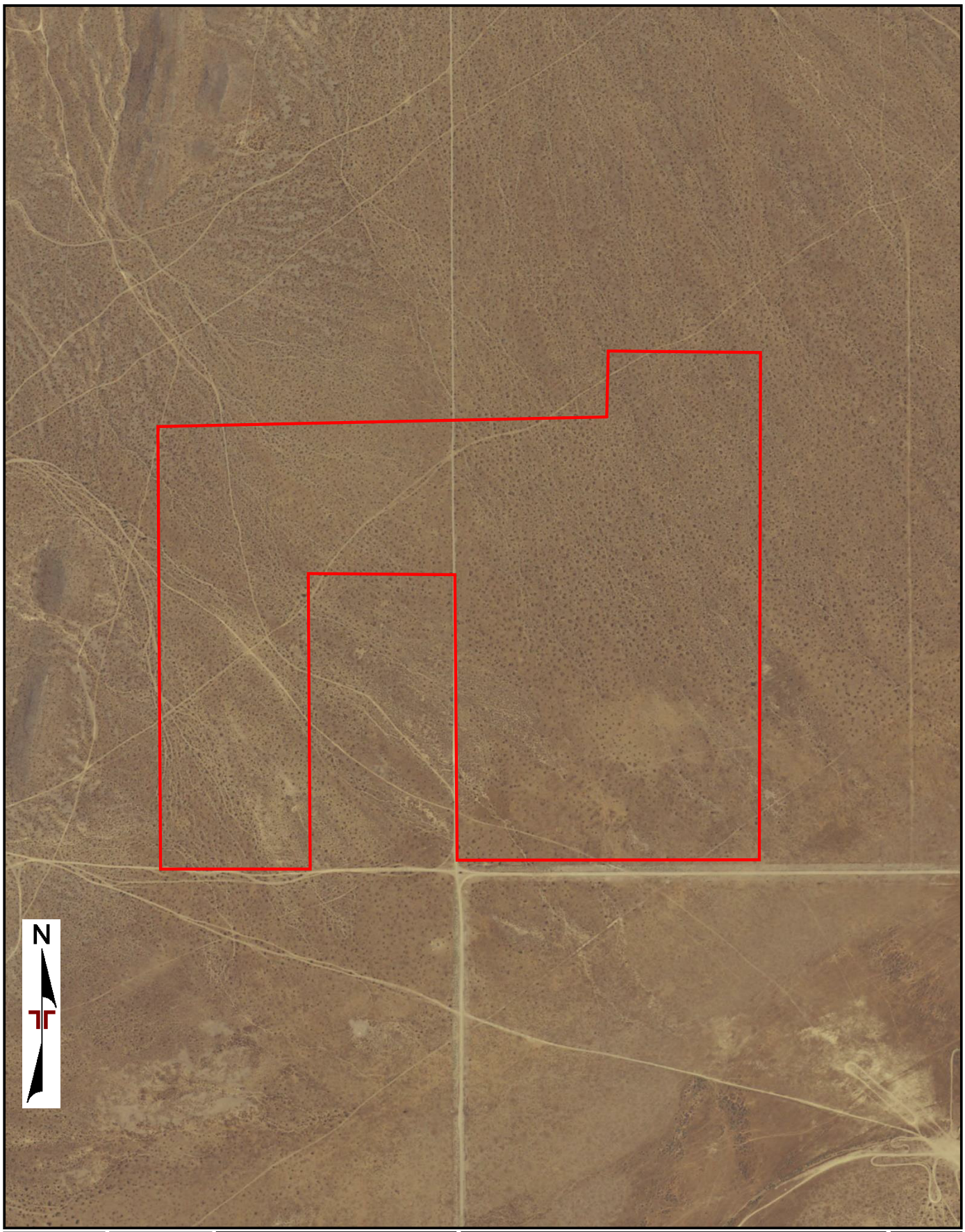
Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (2018-NAIP)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue, Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



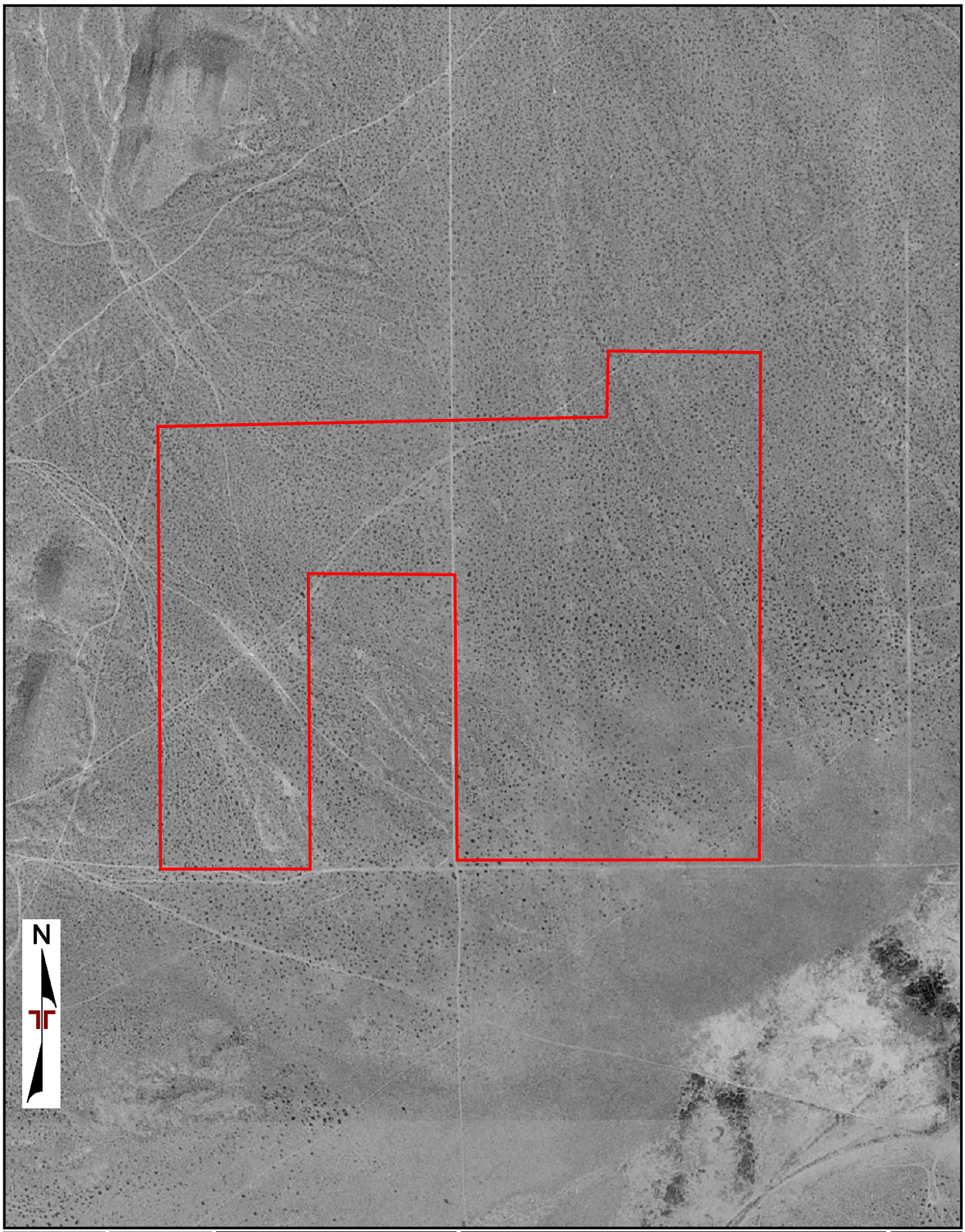
Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (2012-NAIP)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



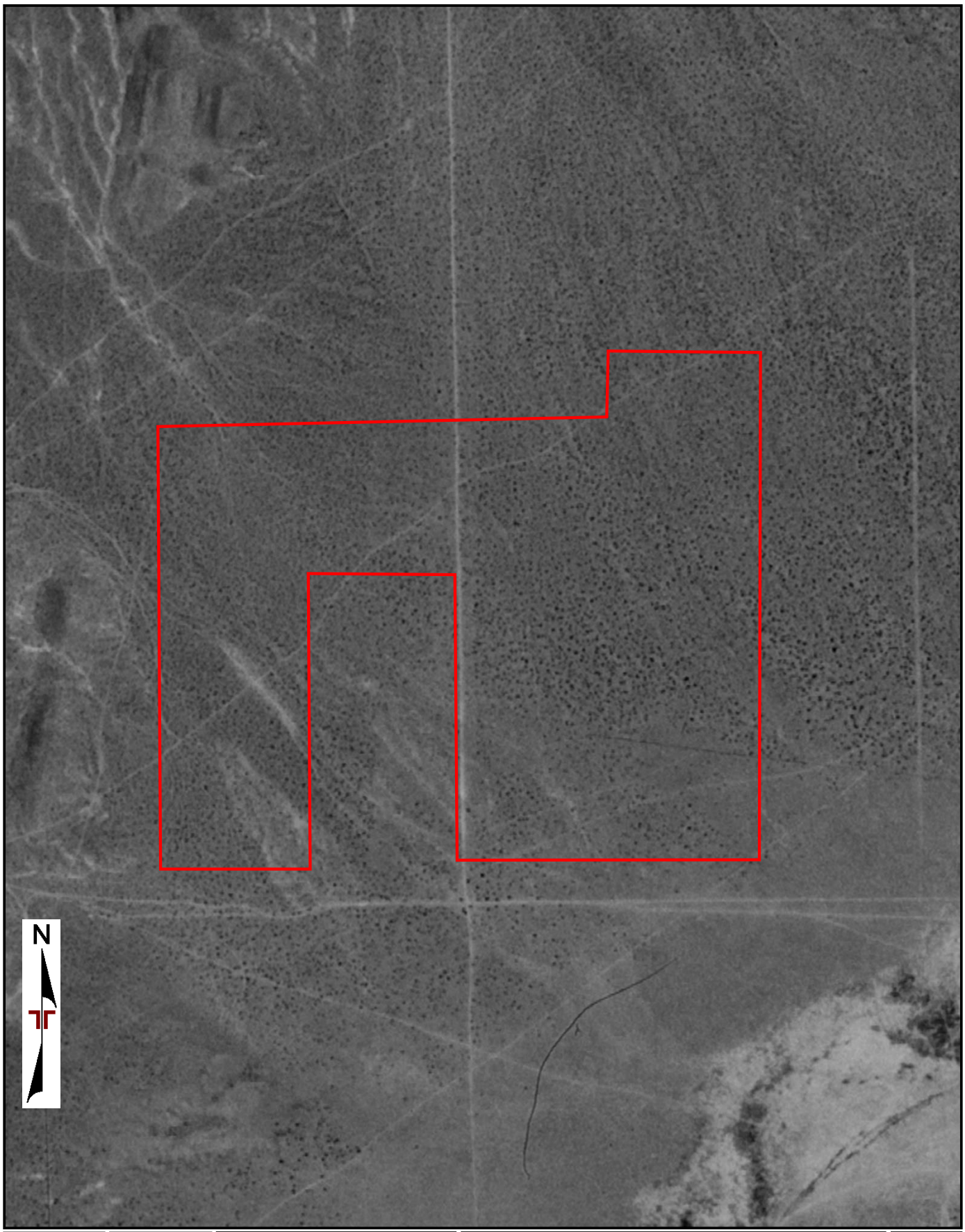
Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (2010-NAIP)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



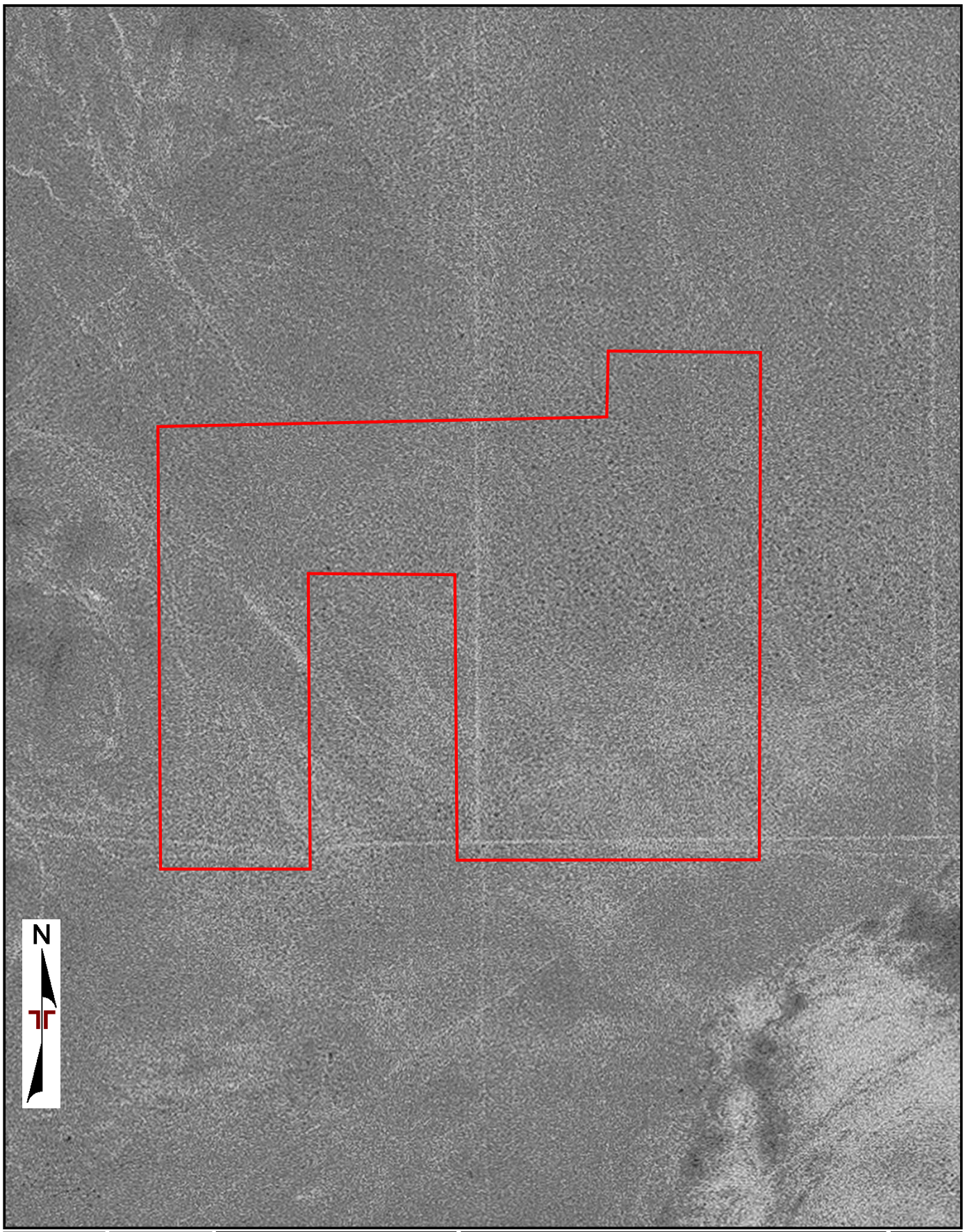
Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 1 Scale: 1":500' File Name: 20191113052 Date: NOV 2019	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	AERIAL PHOTO (2005-NAIP) BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



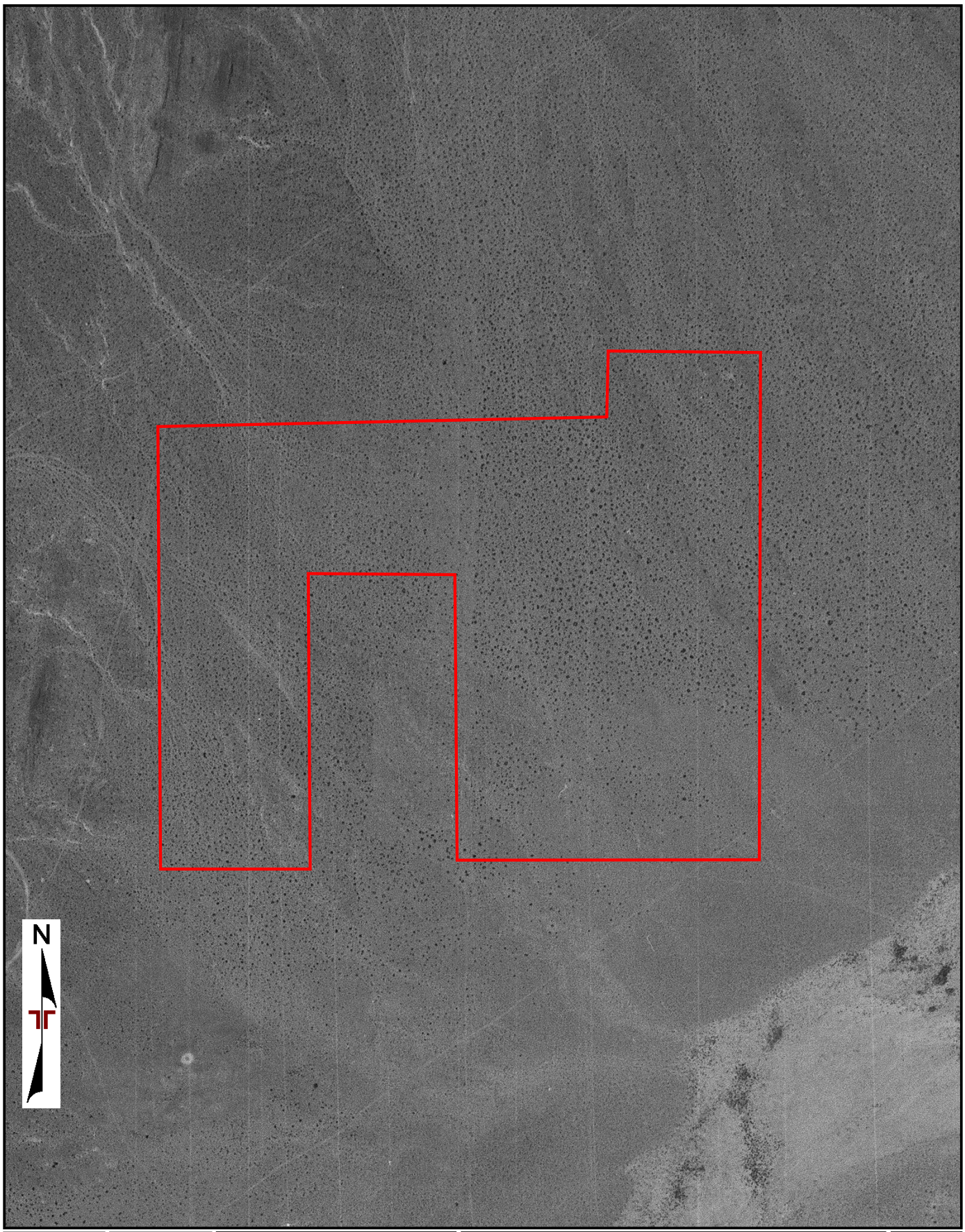
Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (1995-USGS)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (1985-NHAP)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 1	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	AERIAL PHOTO (1978-USGS) BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix
Drawn by: MH	Scale: 1":500'			C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (1968-USGS)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA
Checked by: JSV	File Name: 20191113052		
Approved by: SN	Date: NOV 2019		

Appendix

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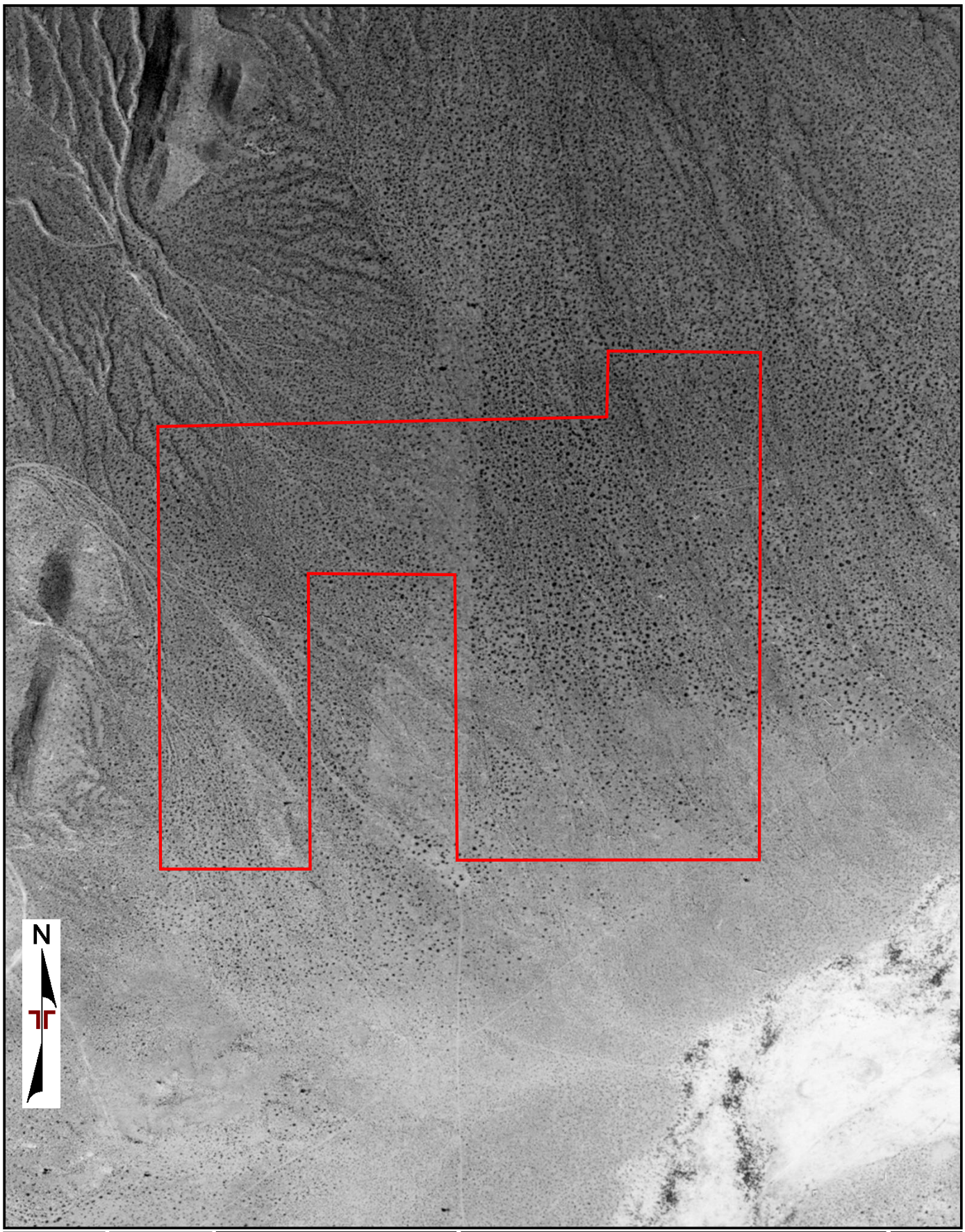
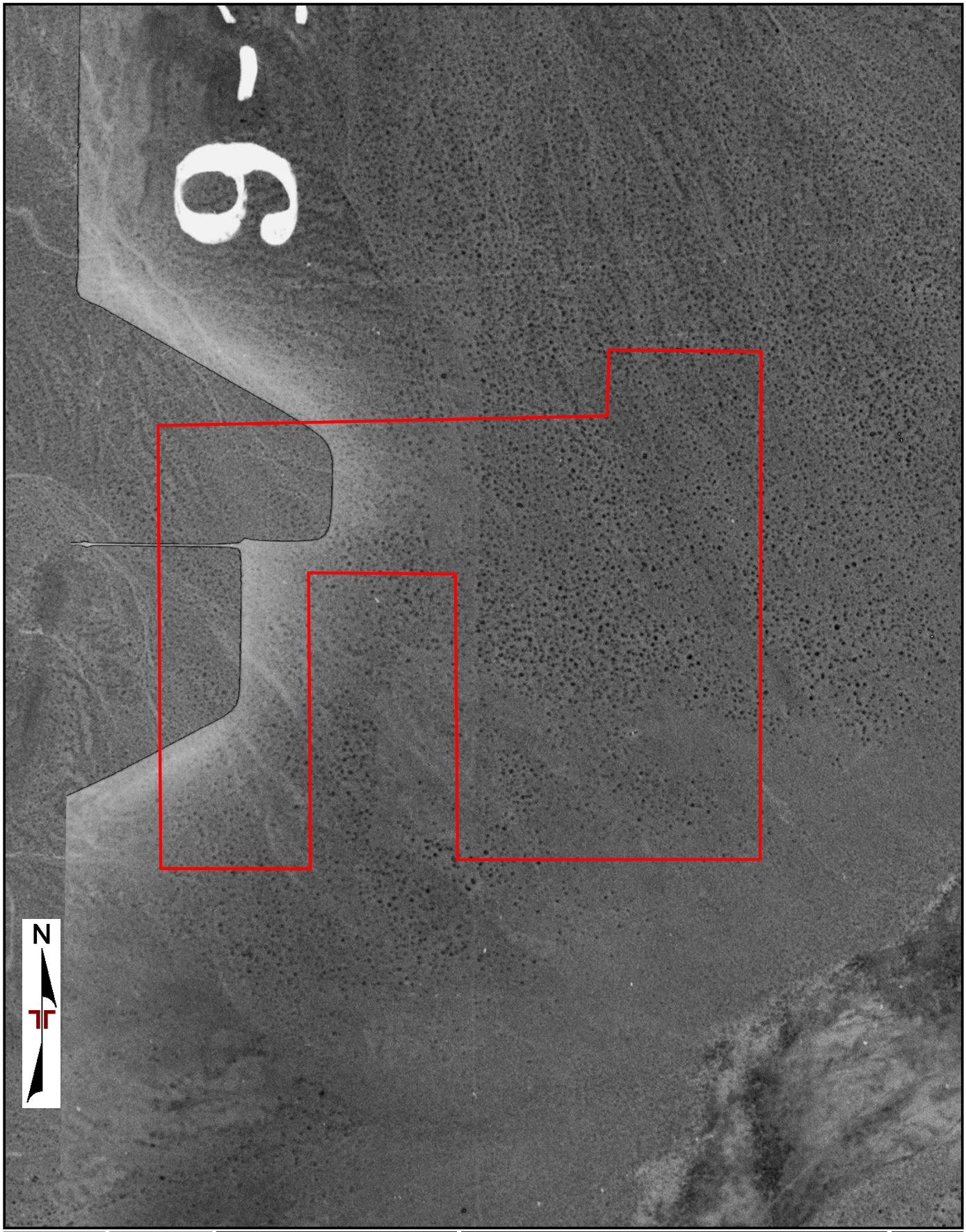


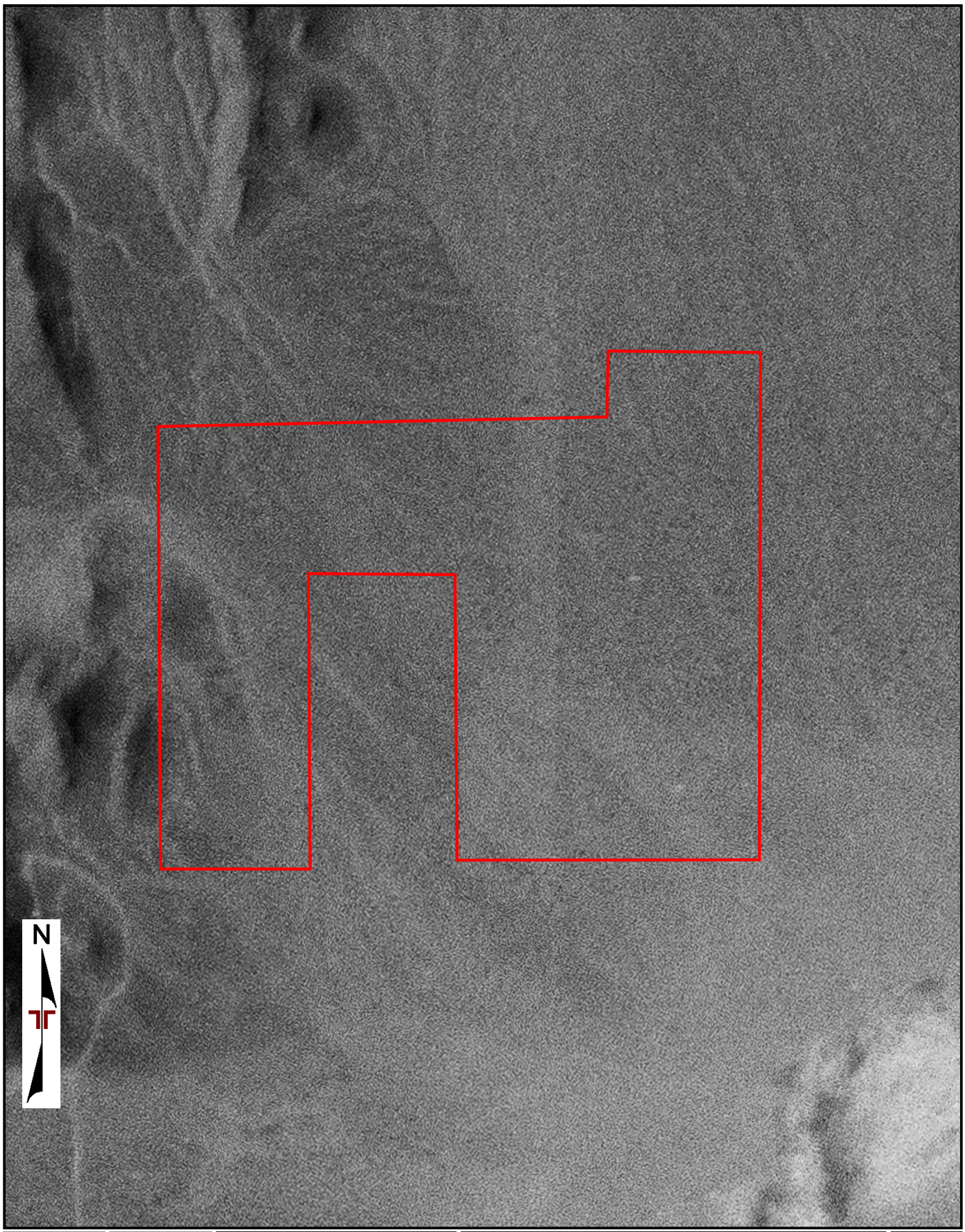
Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (1959-ASCS)
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA
Checked by: JSV	File Name: 20191113052		
Approved by: SN	Date: NOV 2019		

Appendix

C



Project Manager: JSV	Project No. Site 1	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	AERIAL PHOTO (1952-USGS) BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1":500'			
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 1	Terracon	AERIAL PHOTO (1948-USAF)	Appendix
Drawn by: MH	Scale: 1":500'	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			

ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

Project Property:	Site 2 Adelanto CA
Project No:	
Requested By:	Terracon
Order No:	20191113052
Date Completed:	November 14, 2019

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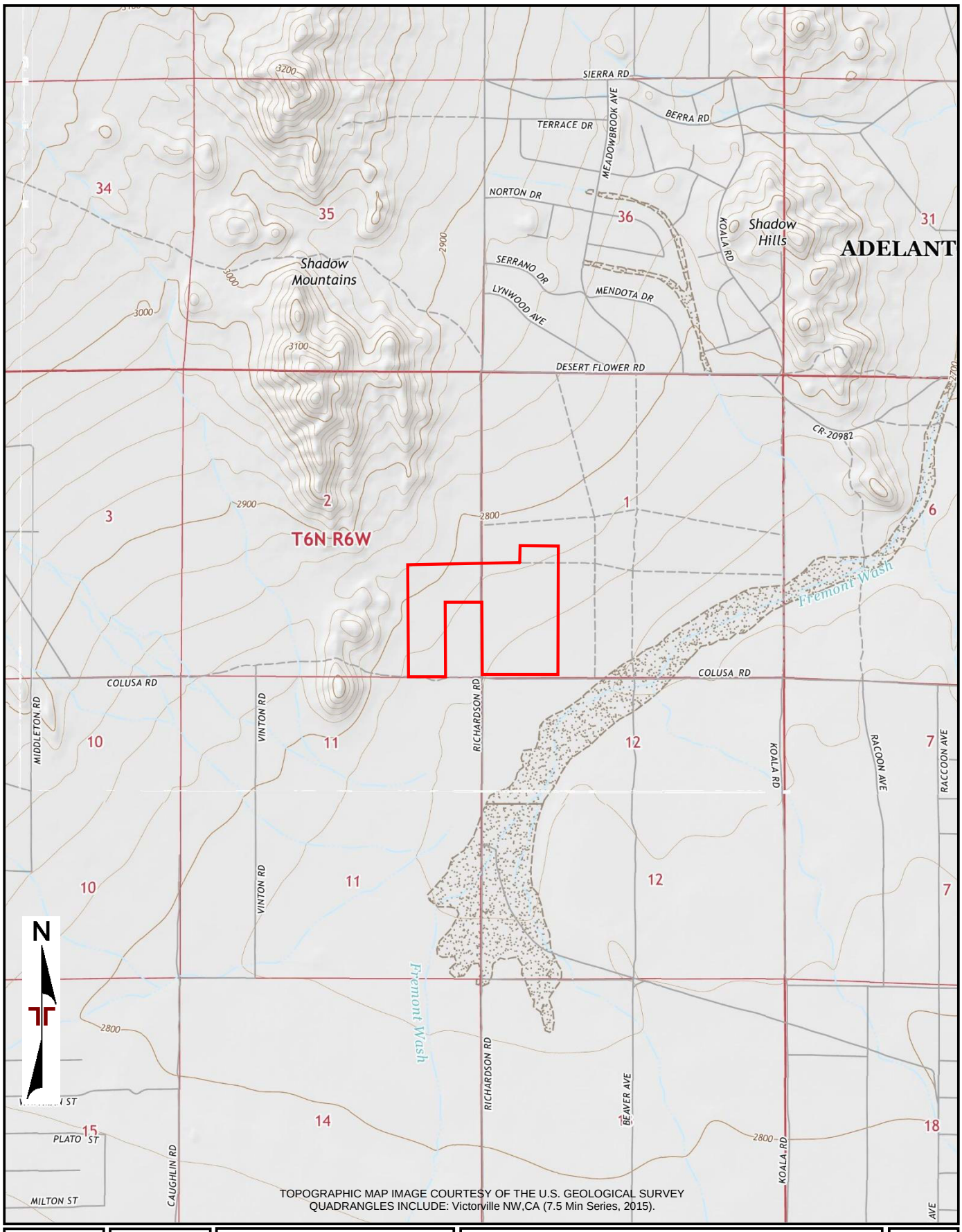
We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

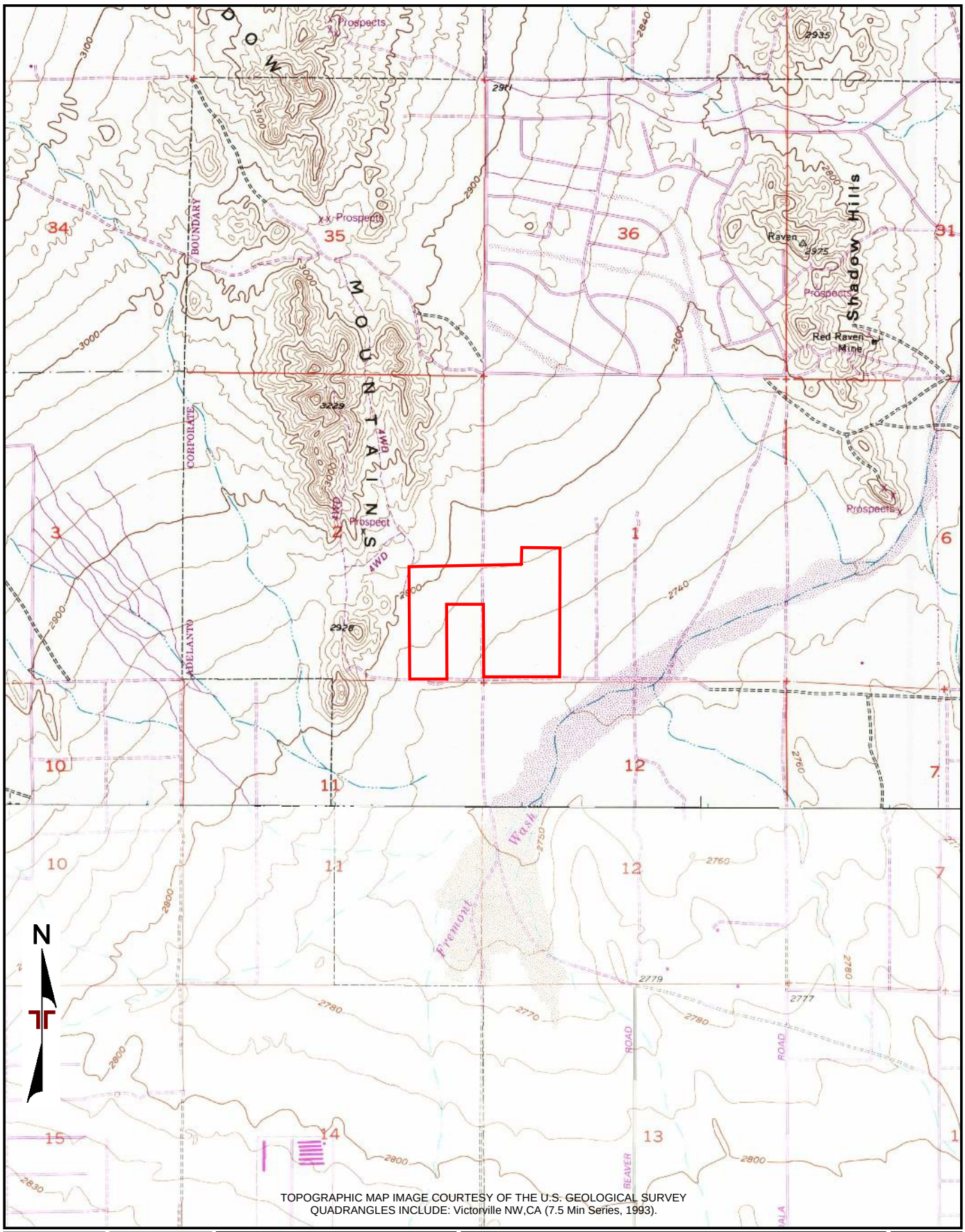
Year	Map Series
2015	7.5
1993	7.5
1968	7.5
1956	7.5
1956	15

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS. This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.



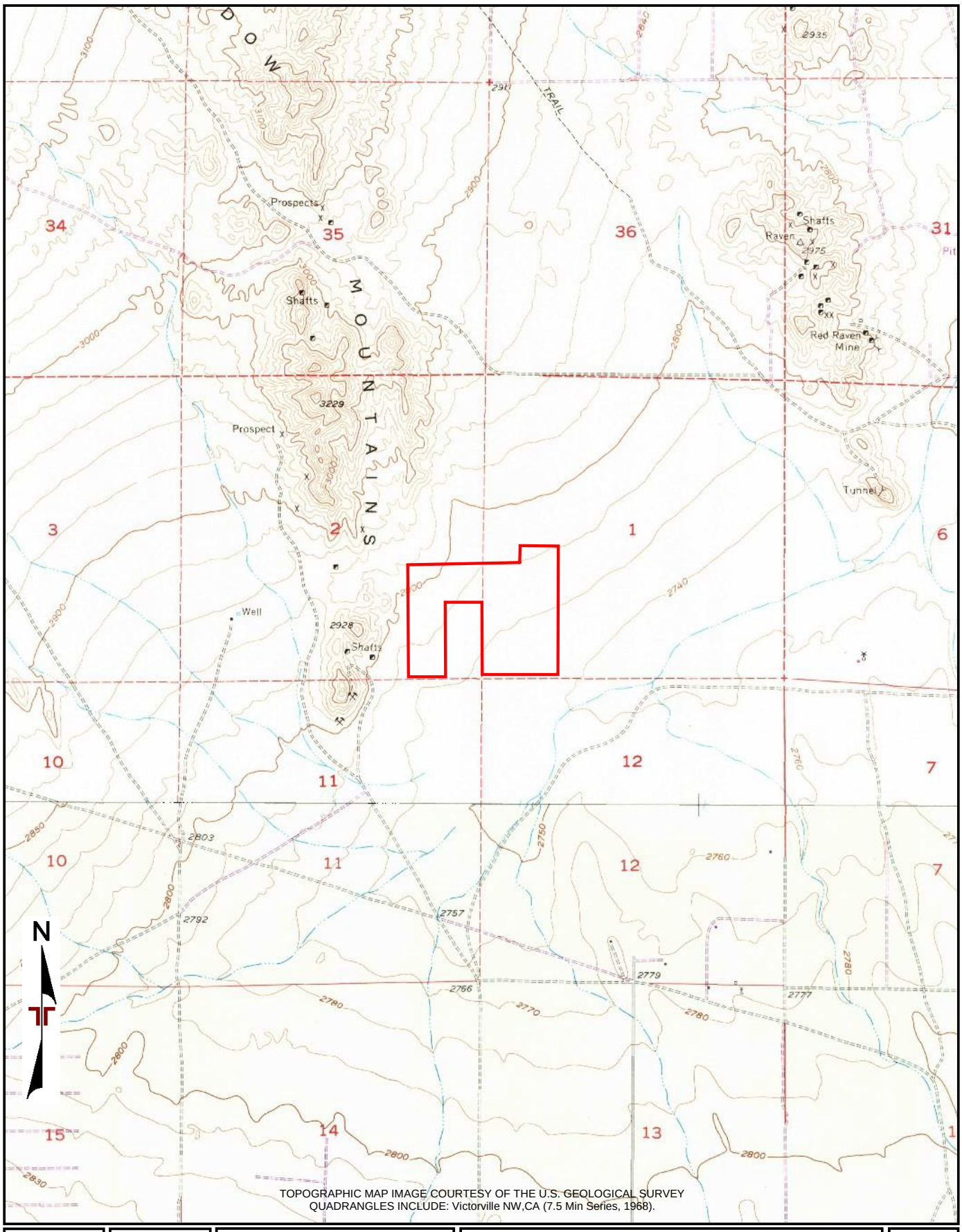
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW,CA (7.5 Min Series, 2015).

Project Manager: JSV	Project No. Site 1	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (2015)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



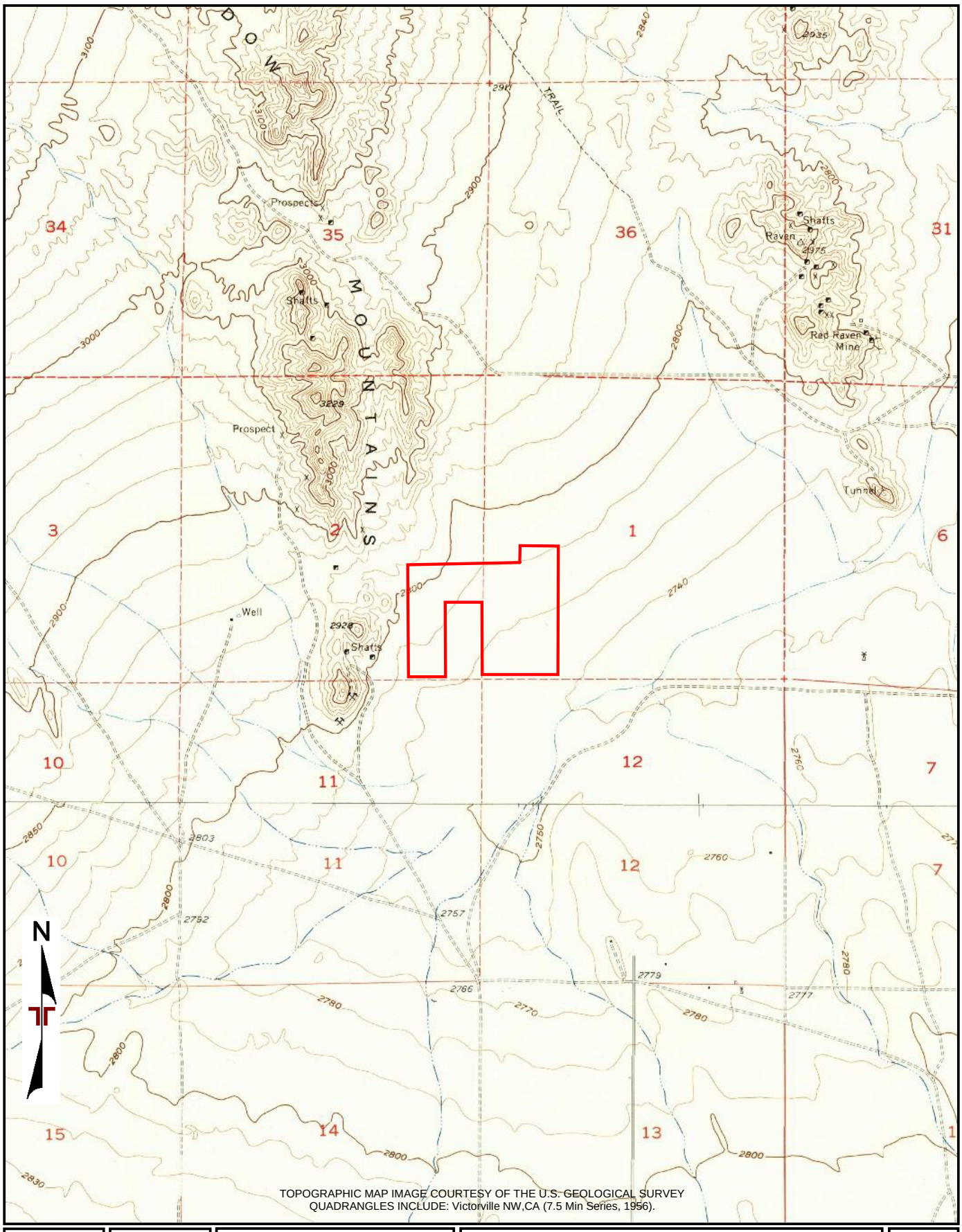
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW,CA (7.5 Min Series, 1993).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 1 Scale: 1"=2,000' File Name: 20191113052 Date: NOV 2019	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1993) BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C

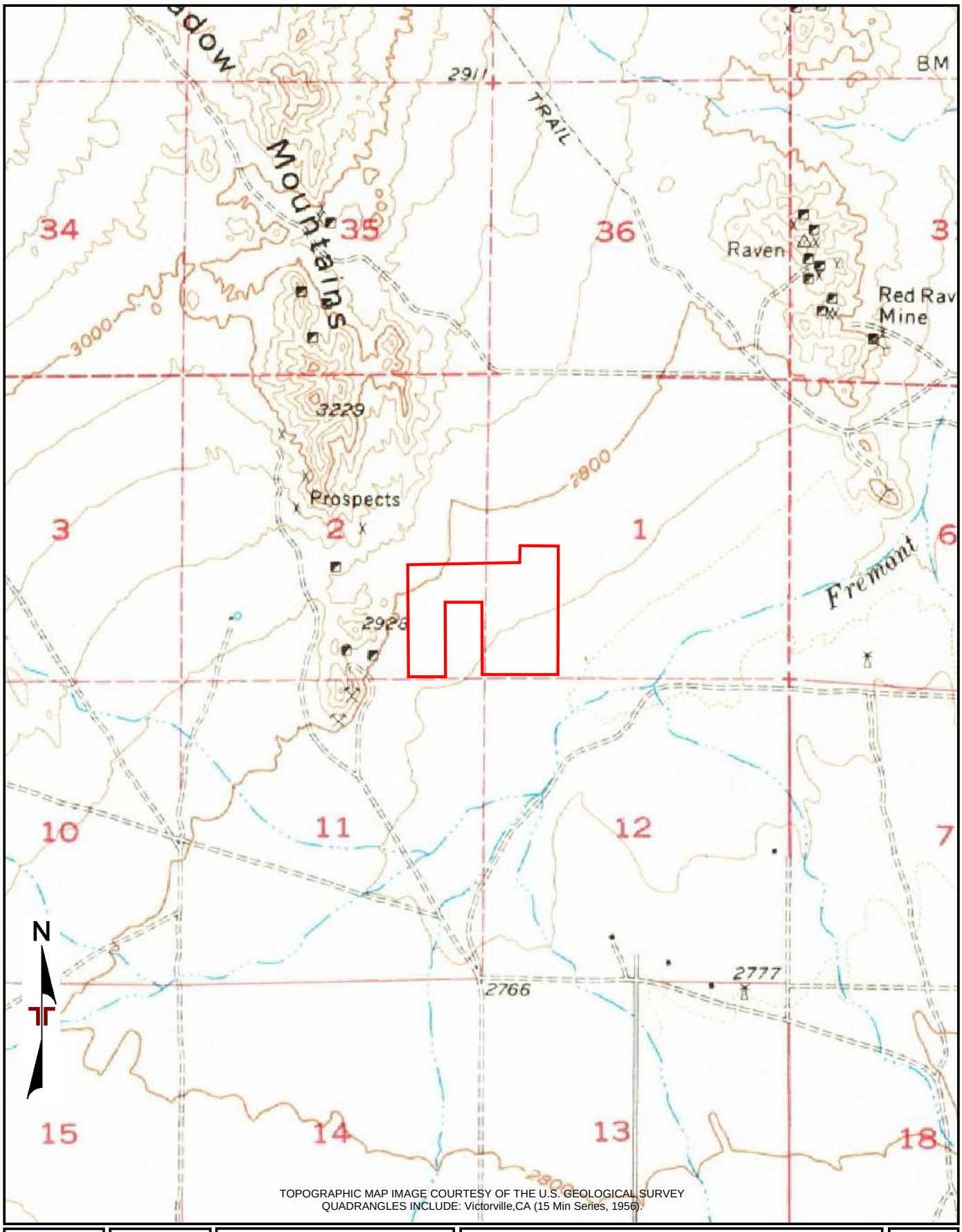


TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville NW,CA (7.5 Min Series, 1968).

Project Manager: JSV	Project No. Site 1	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1968)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



Project Manager: JSV	Project No. Site 1	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956) BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville,CA (15 Min Series, 1956).

Project Manager: JSV	Project No. Site 1	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PAHSE II - SITE 2 APNS: 045804232, 045804237, 045804261, 045804262 AND 045804263 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	C
Checked by: JSV	File Name: 20191113052			
Approved by: SN	Date: NOV 2019			

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Site 2
	Adelanto CA
Project No:	
Requested By:	Terracon
Order No:	20191113052
Date Completed:	November 14, 2019

Please note that no information was found for your site or adjacent properties.

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ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Site 2* *Site 2* *Adelanto, CA*
Project No:	*Site 2*
Requested By:	*Terracon*
Order No:	*20191113051*
Date Completed:	*November 26, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
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November 26, 2019
RE: CITY DIRECTORY RESEARCH
Site 2
Site 2 Adelanto, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

All of Desert Flower Road
All of Aster Road
All of Co Road 20982

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2006	DIGITAL BUSINESS DIRECTORY	
2002	DIGITAL BUSINESS DIRECTORY	
1998	DIGITAL BUSINESS DIRECTORY	
1988	HAINES	
1971	HAINES	

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

16800 **LOS ANGLES DEPT OF WATER/POWER**...*Legis*

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

. **LOS ANGELES DEPARTMENT OF WATER &** ...
16800 **LOS ANGELES DEPT OF WATER & POWER** ...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

CO ROAD 20982

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

DESERT FLOWER ROAD

NO LISTING FOUND FOR THIS YEAR...

1988
SOURCE: HAINES

ASTER ROAD

16800 **ASEA POWER SYSTEMS**
16800 **LA DEPT WATER & POWER**
16800 **LA DEPT WATER & POWER**

1988
SOURCE: HAINES

CO ROAD 20982

STREET NOT LISTED

1988
SOURCE: HAINES

DESERT FLOWER ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

ASTER ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

CO ROAD 20982

STREET NOT LISTED

1971
SOURCE: HAINES

DESERT FLOWER ROAD

STREET NOT LISTED

Frank Green

Stewart Title Guaranty Company
Commercial Services (San Diego)
7676 Hazard Center Drive, Ste 1400
San Diego, CA 92108
(619) 398-8035 Phone
(619) 615-2389 Fax
fgreen@stewart.com

PRELIMINARY REPORT

Order No.	:	19000330856
Title Unit No.	:	48
Your File No.	:	
Buyer/Borrower Name	:	Sustainable Power
Seller Name	:	Dong Hyun Kim

Property Address: Vacant Colusa Rd., Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title Guaranty Company Commercial Services (San Diego) hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of June 19, 2019 at 7:30 a.m.

Frank Green, Title Officer

When replying, please contact: Frank Green, Title Officer

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☐ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☒ Report Only

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Dong Hyun Kim and Seong Suk Lee, husband and wife as joint tenants, as to an undivided 50% interest and Lorie Jihae Kook, a single woman, as to undivided 25% interest and Kwang Sub Moon and Hye Won Moon, husband and wife as joint tenants, as to an undivided 25% interest, all Tenants in Common

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The West 1/2 of the Southeast quarter of the Southeast quarter of Section 2, Township 6 North, Range 6 West, San Bernardino Base and Meridian, in the City of Adelanto, County of San Bernardino, State of California, according to the Official Plat thereof.

Excepting therefrom all oil, gas, minerals and other hydrocarbon substances lying in, on or under said land, with right of entry for the purpose of Development, storage and removal of said gas, oil, minerals and other hydrocarbon substances, as reserved in the Deed from David T. Walsh and Hester Walsh, husband and wife and Margaret Rogers, a single woman to Julius Drapkin, a married man, dated June 28, 1955, and recorded August 15, 1955, in Book 3715, Page 498, of Official Records and in the Deed from David T. Walsh and Hester Walsh, husband and wife and Margaret Rogers, a single woman, to Paul Horowit, a married man, dated June 28, 1955, in Book 3715, Page 499, of Official Records.

APN: 0458-042-32-0-000

APN: 0458-042-32-0-000
(End of Legal Description)

THE MAP ATTACHED THROUGH THE HYPERLINK ABOVE IS BEING PROVIDED AS A COURTESY AND FOR INFORMATION PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. THERE WILL BE NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO ANY MATTERS CONCERNING THE CONTENTS OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 – 2020.

B. Assessments, if any, for Community Facility Districts affecting said land which may exist by virtue of assessment maps or notices filed by said districts. Said assessments are collected with the County Taxes.

C. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the revenue and taxation code of the State of California.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

3. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

4. Reservations and exceptions in the Patent by State of California recorded March 11, 1936, in Book 1128, Page 2.

5. Lack of a right of access to and from the land.

6. The fact that said land is included within a project area of the Victor Valley Redevelopment Project, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded December 19, 2007 as Instrument No. 2007-0704538, of Official Records.

7. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

8. Rights of parties in possession.

Typist/Rev. H.P. 06-28-19

(End of Exceptions)

NOTES AND REQUIREMENTS

A. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:

1st Installment:	$580.69
2nd Installment:	$580.65
Parcel No.:	0458-042-32-0-000
Code Area:	014031

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title Guaranty Company Commercial Services (San Diego) via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title Guaranty Company Commercial Services (San Diego). Stewart Title Guaranty Company Commercial Services (San Diego) may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title Guaranty Company Commercial Services (San Diego) shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title Guaranty Company Commercial Services (San Diego) . Such benefits shall be deemed additional compensation to Stewart Title Guaranty Company Commercial Services (San Diego) for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

OWNER'S AFFIDAVIT AND INDEMNITY

Order Number: 19000330856
Address/Location: Vacant Colusa Rd., Adelanto, CA 92301
APN: 0458-042-32-0-000

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company (hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

6. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

7. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

8. Affiant is not aware of the existence of any of the following::
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.
   j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.
   k. Any use of the property for the production, sale, warehousing or transporting of fresh fruits, vegetables, livestock or poultry (e.g. supermarkets, restaurants, wineries, breweries and meat packing plants).

With regard to 8a.-8k, except as follows:

9. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance

12. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property and there are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights of the Property, except the following: **(If none, please state "none")**

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____
Dong Hyun Kim

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 19000330856
Escrow No.: 19000330856

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The West 1/2 of the Southeast quarter of the Southeast quarter of Section 2, Township 6 North, Range 6 West, San Bernardino Base and Meridian, in the City of Adelanto, County of San Bernardino, State of California, according to the Official Plat thereof.

Excepting therefrom all oil, gas, minerals and other hydrocarbon substances lying in, on or under said land, with right of entry for the purpose of Development, storage and removal of said gas, oil, minerals and other hydrocarbon substances, as reserved in the Deed from David T. Walsh and Hester Walsh, husband and wife and Margaret Rogers, a single woman to Julius Drapkin, a married man, dated June 28, 1955, and recorded August 15, 1955, in Book 3715, Page 498, of Official Records and in the Deed from David T. Walsh and Hester Walsh, husband and wife and Margaret Rogers, a single woman, to Paul Horowit, a married man, dated June 28, 1955, in Book 3715, Page 499, of Official Records.

APN: 0458-042-32-0-000

APN: 0458-042-32-0-000

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: June 28, 2019

Escrow No.: 19000330856

Property: Vacant Colusa Rd., Adelanto, CA 92301

From: Stewart Title Guaranty Company - Commercial Services

This is to give you notice that Stewart Title Guaranty Company - Commercial Services ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and Stewart Title of California. Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:

   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

STG Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you ▪ request insurance-related services ▪ provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1360 Post Oak Blvd., Ste. 100, Privacy Officer, Houston, Texas 77056**

stewart title
Real partners. Real possibilities.™

Shelly Sanchez
Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
Phone: (951) 276-2700
Fax: (866) 476-8953
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

Order No.: 417259
Your File No.:
Buyer/Borrower Name:
Seller Name: Gary Gray

Property Address: APN 0458-042-61, Vacant Land, Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title of California, Inc. hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of April 23, 2019 at 8:00AM	

When replying, please contact: Shelly Sanchez, Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
(951) 276-2700
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☒ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Seasons Land Corporation, a California Corporation

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The South 1/2 of the North 1/2 of the West 1/2 of the Southwest 1/4 of Section 1, Township 6 North, Range 6 West, San Bernardino Base and Meridian, according to the Official Plat of said land approved by the Surveyor General, dated June 19, 1856.

Excepting therefrom an undivided 1/3 interest in all of the oil and gas as conveyed to Charles G. Storie, in the deed recorded November 14, 1952 in Book 3054, Page(s) 48 of Official Records.

Also excepting therefrom 16 per cent of all crude oil and minerals below a depth of 500 feet from the surface of said land without right of surface entry, as reserved in the deed by Georgia A. Olsen, recorded December 21, 1971 in Book 7820 page 258 of Official Records.

APN: 0458-042-61

(End of Legal Description)

MAP

THE MAP CONNECTED HEREWITH IS BEING PROVIDED AS A COURTESY AND FOR INFORMATIONAL PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. STEWART ASSUMES NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO THE MAPS NOR ANY MATTERS CONCERNING THE CONTENTS OF OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 - 2020.

B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California.

C. Taxes and/or assessments affecting the land, if any, for Community Facility Districts including Mello Roos Districts which may exist by virtue of assessment maps or notices filed by said districts. Said taxes and/or assessments are typically collected with the County taxes; however, some districts may remove these taxes and/or assessment from the County taxes and assess and collect them separately.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

3. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

4. Reservations and exceptions in the Patent recorded in Book L page 19 of Patents, and recorded November 4, 1987 as Instrument No. 87-393169 of Official Records.

5. An easement for right of way of lawful width for any and all County Roads, and rights incidental thereto in favor of Southern Pacific Land Company, a Corporation, as set forth in a document recorded May 1, 1923 in Book 793 page 261 of Official Records.

6. This Company will require the following documents, in order to insure a conveyance or encumbrance by the corporation or unincorporated association named below:

   Entity: Seasons Land Corporation

   (a) A copy of the corporation By-Laws or Articles.

   (b) An original or certified copy of the Resolution authorizing the subject transaction.

   (c) If the Articles or By-Laws require approval by a "parent" organization, we will also require a copy of those By-Laws or Articles.

   (d) If an unincorporated association, a statement pursuant to applicable law.

7. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

8. Rights of tenants in possession as tenants only under unrecorded leases.

9. Rights or claims of parties in possession and easements or claims of easements not shown by the public records, boundary line disputes overlaps, encroachments, and any matters not of record, which would be disclosed by an accurate survey, and inspection of the land.

(End of Exceptions)

NOTES AND REQUIREMENTS

A. Basic Rate

B. The only conveyance affecting said land, which is shown in the public records within 24 months of the date of this report is Interspousal Transfer Grant Deed, Carolyn Ann Gray, Spouse of Grantee herein, as Grantor and Gary Gray, a Married Man as his sole and separate property, as Grantee, recorded: December 4, 2018 as Instrument No. 18-449065, of Official Records.

   And Grant Deed, Gary Gray, a Married Man as his sole and separate property, aka Gary Roy Gray, as Grantor, and Seasons Land Corporation, a California Corporation, as Grantee, recorded December 4, 2018 as Instrument No. 18-449066 of Official Records.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
   1st Installment: $309.79
   2nd Installment: $309.75
   Parcel No.: 0458-042-61-0
   Code Area: 014032

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title of California, Inc. via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title of California, Inc.. Stewart Title of California, Inc. may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title of California, Inc. shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title of California, Inc.. Such benefits shall be deemed additional compensation to Stewart Title of California, Inc. for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 417259
Escrow No.: 417259

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The South 1/2 of the North 1/2 of the West 1/2 of the Southwest 1/4 of Section 1, Township 6 North, Range 6 West, San Bernardino Base and Meridian, according to the Official Plat of said land approved by the Surveyor General, dated June 19, 1856.

Excepting therefrom an undivided 1/3 interest in all of the oil and gas as conveyed to Charles G. Storie, in the deed recorded November 14, 1952 in Book 3054, Page(s) 48 of Official Records.

Also excepting therefrom 16 per cent of all crude oil and minerals below a depth of 500 feet from the surface of said land without right of surface entry, as reserved in the deed by Georgia A. Olsen, recorded December 21, 1971 in Book 7820 page 258 of Official Records.

APN: 0458-042-61

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: May 2, 2019

File No.: 417259

Property: APN 0458-042-61, Vacant Land, Adelanto, CA 92301

From: Stewart Title of California, Inc.

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and . Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

ACKNOWLEDGEMENT OF RECEIPT, UNDERSTANDING AND APPROVAL OF STEWART TITLE GUARANTY COMPANY PRIVACY NOTICE FOR STEWART TITLE COMPANIES AND AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

The undersigned hereby acknowledge receipt of the Stewart Title Guaranty Company Privacy Notice for Stewart Title Companies and the Affiliated Business Arrangement Disclosure Statement that apply to this transaction. The undersigned further acknowledge that he/she/they have received, read, understand and accept these documents in connection with the above described transaction.

The undersigned have received a copy of this acknowledgement as evidenced by the signature below.

_____
Gary Gray

TBD

By:_____

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (c) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records,
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i) the occupancy, use, or enjoyment of the Land;
   ii) the character, dimensions, or location of any improvement erected on the Land;
   iii) the subdivision of land; or
   iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

AVAILABLE DISCOUNTS DISCLOSURE STATEMENT

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") is pleased to inform you that upon proper qualification, there are premium discounts available upon the purchase of title insurance covering improved property with a one to four family residential dwelling.

Such discounts apply to and include:

Property located within an area proclaimed a state or federal disaster area;

Property purchased from a foreclosing beneficiary or successful bidder at a foreclosure sale;

Property being refinanced.

Please talk with your escrow or title officer to determine your qualification for any of these discounts.

IF YOU'RE PAYING FOR THE TITLE INSURANCE POLICY PREMIUM TO BE DISCOUNTED, PLEASE COMPLETE AND SUBMIT THIS FORM TO DETERMINE ELIGIBILITY FOR ONE OF THE STATED DISCOUNTS

STGC TITLE PREMIUM DISCOUNT APPLICATION AND CONFIRMATION OF ELIGIBILITY

Order Number: 417259

Property: APN 0458-042-61, Vacant Land, Adelanto, CA 92301

APN: 0458-042-61

In connection with the request of the Undersigned ("Applicant") for the preparation and issuance of title insurance, Applicant provides this completed STGC Title Premium Discount Application and Confirmation of Eligibility ("Request Form") for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company, and its policy issuing agent Stewart Title of California, Inc. (collectively hereafter referred to as "Stewart Title") in connection with pricing the title insurance premium for the owner-occupied, 1-4 family residence in the above referenced transaction:

1. Applicant understands that Stewart Title has available for qualifying requestors a 10% discount on the title insurance premium charged under certain circumstances; however, all endorsement fees and other charges are not discounted.
2. Applicant understands that Stewart Title is only able to provide such discount if requested through providing this completed Request Form and is received by Stewart Title at least five (5) business days prior to recording of the transaction to which a discount is requested.
3. Applicant understands that Stewart Title prohibits combined discounts; accordingly, Stewart Title will provide this requested discount and disregard other applicable discounts, if any, when eligibility requirements for such discount are satisfied. For refinance transactions, a qualifying discount is available for Stewart's Refinance Rate and its Stewart Absolute Rate.
4. Applicant requests the following discount and affirms that Applicant meets the criteria and requirements set forth to qualify for such selected discount (SELECT ONLY ONE QUALIFYING DISCOUNT):

☐ Active duty military personnel and honorably discharged veterans discount – To qualify for the active duty military personnel and honorably discharged veterans discount: (1) the property being purchased or refinanced must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the title insurance premium being discounted is a U.S. citizen, permanent resident or qualified alien and is either engaged in full-time, active duty in the military on the date signed below or is a honorably discharged veteran.

☐ Senior citizen discount – To qualify for a senior citizen discount: (1) the property being purchased or refinanced must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the title insurance premium being discounted is a U.S. citizen, permanent resident or qualified alien and is 55 years of age or older on the date signed below.

☐ First-time homebuyer discount – To qualify for a first-time homebuyer discount: (1) the property being purchased must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the owner's title insurance premium is a U.S. citizen, permanent resident or qualified alien and has either never owned any property or, has not been an owner in a primary residence for the last three calendar years from the date signed below.

This Request Form is completed under penalty of perjury and is made for the purpose of inducing Stewart Title to provide the title premium discount, and the representations contained herein are material to such insurance coverage pricing. The undersigned hereby indemnifies and holds Stewart Title harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain to the extent any representation contained herein is incorrect. The undersigned understands that Stewart Title may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ AND COMPLETE THE STGC TITLE PREMIUM DISCOUNT REQUEST FORM ON THE PREVIOUS PAGE BEFORE SIGNING BELOW. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD CONTACT YOUR LOCAL STEWART TITLE PROFESSIONAL.

THE UNDERSIGNED DECLARES UNDER PENALTY OF PERJURY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.

Date: _____, 2019

_____ _____

_____ _____

OWNER'S AFFIDAVIT AND INDEMNITY

Order No.: 417259
Address/Location: APN 0458-042-61, Vacant Land, Adelanto, CA 92301
APN: 0458-042-61

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer STEWART TITLE GUARANTY COMPANY, and its policy issuing agent STEWART TITLE OF CALIFORNIA, INC. (collectively hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

6. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

7. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

8. Affiant is not aware of the existence of any of the following:
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.
   j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.

k. Any use of the property for the production, sale, warehousing or transporting of fresh fruits, vegetables, livestock or poultry (e.g. supermarkets, restaurants, wineries, breweries and meat packing plants).

With regard to 8a.-8k, except as follows:

_____

9. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance
_____	_____
_____	_____

12. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property and there are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights of the Property, except the following: **(If none, please state "none")**

    _____

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

    _____

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____
Gary Gray

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

Stewart Title Guaranty Company Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you request insurance-related services provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056**

stewart title
Real partners. Real possibilities.™

Shelly Sanchez
Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
Phone: (951) 276-2700
Fax: (866) 476-8953
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

Order No.: 417193
Your File No.:
Buyer/Borrower Name:
Seller Name: Seasons Land Corporation

Property Address: APN 0458-042-62, Vacant Land, Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title of California, Inc. hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of April 23, 2019 at 8:00AM	

When replying, please contact: Shelly Sanchez, Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
(951) 276-2700
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☒ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Nghia T. Nguyen and Sandy K. Vu,Husband and Wife as Joint Tenants, subject to Items 6 and 7

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The North half of the South half of the West half of the Southwest quarter, Section 1, Townsip 6 North, Range 6 West, San Bernardino Base and Meridian, according to the Official Plat of said land approved by the Surveyor General, dated June 19, 1856.

Excepting therefrom an undivided 1/3 interest in all of the oil and gas, as conveyed to Charles G. Storie, in the deed recorded November 14, 1952 in Book 3054 page 48 of Official Records.

Also excepting therefrom 16 percent of all crude oil and minerals below a depth of 500 feet from the surface of said land without right of surface entry, as reserved in the deed executed by Georgia A. Olsen, recorded December 21, 1971 in Book 7820 page 258 of Official Records.

APN: 0458-042-62

(End of Legal Description)

MAP

THE MAP CONNECTED HEREWITH IS BEING PROVIDED AS A COURTESY AND FOR INFORMATIONAL PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. STEWART ASSUMES NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO THE MAPS NOR ANY MATTERS CONCERNING THE CONTENTS OF OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 - 2020.

B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California.

C. Taxes and/or assessments affecting the land, if any, for Community Facility Districts including Mello Roos Districts which may exist by virtue of assessment maps or notices filed by said districts. Said taxes and/or assessments are typically collected with the County taxes; however, some districts may remove these taxes and/or assessment from the County taxes and assess and collect them separately.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

3. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

4. Reservations and exceptions in the Patent by the United States of America, recorded in Book L page 19 of Patents, and recorded November 4, 1987 as Instrument No. 87-393169 of Official Records.

5. An easement for right of way of lawful width for any and all County Roads, and rights incidental thereto in favor of Southern Pacific Land Company, a corporation, as set forth in a document recorded May 1, 1923 in Book 793 page 261 of Official Records.

6. Notice of Power to sell tax defaulted property for non-payment of delinquent taxes for the fiscal year 2008 - 2009 in the original amount of $1,108.21, recorded February 2, 2015 as Instrument No. 15-39621 of Official Records.

7. The interest of Nghia T. Nguyen and Sandy K. Vu husband and wife as joint tenants, Taxpayer, acquired by deed dated July 16, 2004, recorded July 16, 2004 as Instrument No. 04-508316 of Official Records, in favor of Seasons Land Corp., was subsequently conveyed by Tax Deed dated June 22, 2015, recorded June 26, 2015 as Instrument No. 15-269546 of Official Records. The Company requires for its review:

   a. Quitclaim Deed from the Taxpayer and discharge or release of lien from all lienholders of record, if any;

b. Quiet Title Final Judgment extinguishing the interests of the Taxpayer and all lienholders of record, if any, together with all proofs of service supporting this court action; or
c. certification acceptable to the Company confirming compliance with all applicable state laws and due process requirements relating to the tax foreclosure.

At that time, the Company may make additional requirements or exceptions.

8. A lien against Nghia T Nguyen, in the amount of $329.3, and other amounts due thereunder, in favor of Phelan Pinon Hills Community Services District, recorded August 26, 2009 as Instrument No. 09-281541 of Official Records.

9. An Abstract of judgment recorded January 7, 2010 as Instrument No. 10-8191 of Official Records
Court : Superior Court of California, County of Orange
Case No. : 30-2009-00255961
Entry Date : October 16, 2009
Debtor : Nghia T. Nguyen
Creditor : Wells Fargo Bank, N.A., a national banking
Amount : $28,320.94 and any other amounts due thereunder.
Filing attorney's information:
Name : Pamela L. Cox, Hemar, Rousso & Heald
Address : 15910 Ventura Blvd., 12th Floor
Phone Number : 818-501-3800

10. A lien for unsecured property taxes filed by the tax collector of the county shown, for the amount set forth, and other amounts due thereunder, County of San Bernardino, Fiscal Year 2004, Nguyen Nghia, Taxpayer, County ID 1012-092-02-P-019, Number 541971, in the amount of $276.52, recorded January 6, 2014 as Instrument No. 14-10641 of Official Records.

11. A lien for unsecured property taxes filed by the tax collector of the county shown, for the amount set forth, and other amounts due thereunder, County of San Bernardino, Fiscal Year 2005, Nguyen Nghia, Taxpayer, County ID 1012-092-02-P-019, Number 569436, in the amount of $288.75, recorded December 3, 2015 as Instrument No. 15-529100 of Official Records.

12. A lien for unsecured property taxes filed by the tax collector of the county shown, for the amount set forth, and other amounts due thereunder, County of San Bernardino, Fiscal Year 2015, Nguyen Sandy, Taxpayer, County ID 0207-211-42-P-006, Number 556546, in the amount of $151.84, recorded November 18, 2015 as Instrument No. 15-496318 of Official Records.

13. A lien for unsecured property taxes filed by the tax collector of the county shown, for the amount set forth, and other amounts due thereunder, County of San Bernardino, Fiscal Year 2016, Nguyen Sandy, Taxpayer, County ID 0207-211-42-P-006, Number 571895, in the amount of $152.59, recorded November 18, 2016 as Instrument No. 16-486741 of Official Records.

14. To assist the Company in the clarifying, confirming and eliminating certain title matters, provide to Stewart Title, prior to recording, a completed Statement of Information for all identified and known Sellers/Owners in this transaction as is necessary to complete the search and examination of title under this order.

15. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

16. This Company will require the following documents, in order to insure a conveyance or encumbrance by the corporation or unincorporated association named below:

Entity: Season's Land Corporation

(a) A copy of the corporation By-Laws or Articles.

(b) An original or certified copy of the Resolution authorizing the subject transaction.

(c) If the Articles or By-Laws require approval by a "parent" organization, we will also require a copy of those By-Laws or Articles.

(d) If an unincorporated association, a statement pursuant to applicable law.

17. Rights of tenants in possession as tenants only under unrecorded leases.

18. Rights or claims of parties in possession and easements or claims of easements not shown by the public records, boundary line disputes overlaps, encroachments, and any matters not of record, which would be disclosed by an accurate survey, and inspection of the land.

(End of Exceptions)

NOTES AND REQUIREMENTS

A. Basic Rate

B. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
1st Installment: $351.56
2nd Installment: $351.52
Parcel No.: 0458-042-62-0
Code Area: 014032

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title of California, Inc. via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title of California, Inc.. Stewart Title of California, Inc. may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title of California, Inc. shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title of California, Inc.. Such benefits shall be deemed additional compensation to Stewart Title of California, Inc. for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 417193
Escrow No.: 417193

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The North half of the South half of the West half of the Southwest quarter, Section 1, Townsip 6 North, Range 6 West, San Bernardino Base and Meridian, according to the Official Plat of said land approved by the Surveyor General, dated June 19, 1856.

Excepting therefrom an undivided 1/3 interest in all of the oil and gas, as conveyed to Charles G. Storie, in the deed recorded November 14, 1952 in Book 3054 page 48 of Official Records.

Also excepting therefrom 16 percent of all crude oil and minerals below a depth of 500 feet from the surface of said land without right of surface entry, as reserved in the deed executed by Georgia A. Olsen, recorded December 21, 1971 in Book 7820 page 258 of Official Records.

APN: 0458-042-62

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: May 3, 2019

File No.: 417193

Property: APN 0458-042-62, Vacant Land, Adelanto, CA 92301

From: Stewart Title of California, Inc.

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and . Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

ACKNOWLEDGEMENT OF RECEIPT, UNDERSTANDING AND APPROVAL OF STEWART TITLE GUARANTY COMPANY PRIVACY NOTICE FOR STEWART TITLE COMPANIES AND AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

The undersigned hereby acknowledge receipt of the Stewart Title Guaranty Company Privacy Notice for Stewart Title Companies and the Affiliated Business Arrangement Disclosure Statement that apply to this transaction. The undersigned further acknowledge that he/she/they have received, read, understand and accept these documents in connection with the above described transaction.

The undersigned have received a copy of this acknowledgement as evidenced by the signature below.

_____
Seasons Land Corporation

TBD

By:_____

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (c) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records,
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i) the occupancy, use, or enjoyment of the Land;
   ii) the character, dimensions, or location of any improvement erected on the Land;
   iii) the subdivision of land; or
   iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

AVAILABLE DISCOUNTS DISCLOSURE STATEMENT

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") is pleased to inform you that upon proper qualification, there are premium discounts available upon the purchase of title insurance covering improved property with a one to four family residential dwelling.

Such discounts apply to and include:

Property located within an area proclaimed a state or federal disaster area;

Property purchased from a foreclosing beneficiary or successful bidder at a foreclosure sale;

Property being refinanced.

Please talk with your escrow or title officer to determine your qualification for any of these discounts.

IF YOU'RE PAYING FOR THE TITLE INSURANCE POLICY PREMIUM TO BE DISCOUNTED, PLEASE COMPLETE AND SUBMIT THIS FORM TO DETERMINE ELIGIBILITY FOR ONE OF THE STATED DISCOUNTS

STGC TITLE PREMIUM DISCOUNT APPLICATION AND CONFIRMATION OF ELIGIBILITY

Order Number: 417193

Property: APN 0458-042-62, Vacant Land, Adelanto, CA 92301

APN: 0458-042-62

In connection with the request of the Undersigned ("Applicant") for the preparation and issuance of title insurance, Applicant provides this completed STGC Title Premium Discount Application and Confirmation of Eligibility ("Request Form") for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company, and its policy issuing agent Stewart Title of California, Inc. (collectively hereafter referred to as "Stewart Title") in connection with pricing the title insurance premium for the owner-occupied, 1-4 family residence in the above referenced transaction:

1. Applicant understands that Stewart Title has available for qualifying requestors a 10% discount on the title insurance premium charged under certain circumstances; however, all endorsement fees and other charges are not discounted.
2. Applicant understands that Stewart Title is only able to provide such discount if requested through providing this completed Request Form and is received by Stewart Title at least five (5) business days prior to recording of the transaction to which a discount is requested.
3. Applicant understands that Stewart Title prohibits combined discounts; accordingly, Stewart Title will provide this requested discount and disregard other applicable discounts, if any, when eligibility requirements for such discount are satisfied. For refinance transactions, a qualifying discount is available for Stewart's Refinance Rate and its Stewart Absolute Rate.
4. Applicant requests the following discount and affirms that Applicant meets the criteria and requirements set forth to qualify for such selected discount (SELECT ONLY ONE QUALIFYING DISCOUNT):

☐ Active duty military personnel and honorably discharged veterans discount – To qualify for the active duty military personnel and honorably discharged veterans discount: (1) the property being purchased or refinanced must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the title insurance premium being discounted is a U.S. citizen, permanent resident or qualified alien and is either engaged in full-time, active duty in the military on the date signed below or is a honorably discharged veteran.

☐ Senior citizen discount – To qualify for a senior citizen discount: (1) the property being purchased or refinanced must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the title insurance premium being discounted is a U.S. citizen, permanent resident or qualified alien and is 55 years of age or older on the date signed below.

☐ First-time homebuyer discount – To qualify for a first-time homebuyer discount: (1) the property being purchased must be a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one individual paying for the owner's title insurance premium is a U.S. citizen, permanent resident or qualified alien and has either never owned any property or, has not been an owner in a primary residence for the last three calendar years from the date signed below.

This Request Form is completed under penalty of perjury and is made for the purpose of inducing Stewart Title to provide the title premium discount, and the representations contained herein are material to such insurance coverage pricing. The undersigned hereby indemnifies and holds Stewart Title harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain to the extent any representation contained herein is incorrect. The undersigned understands that Stewart Title may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ AND COMPLETE THE STGC TITLE PREMIUM DISCOUNT REQUEST FORM ON THE PREVIOUS PAGE BEFORE SIGNING BELOW. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD CONTACT YOUR LOCAL STEWART TITLE PROFESSIONAL.

THE UNDERSIGNED DECLARES UNDER PENALTY OF PERJURY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.

Date: _____, 2019

_____ _____

_____ _____

OWNER'S AFFIDAVIT AND INDEMNITY

Order No.: 417193
Address/Location: APN 0458-042-62, Vacant Land, Adelanto, CA 92301
APN: 0458-042-62

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer STEWART TITLE GUARANTY COMPANY, and its policy issuing agent STEWART TITLE OF CALIFORNIA, INC. (collectively hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

6. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

7. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

8. Affiant is not aware of the existence of any of the following:
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.
   j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.

k. Any use of the property for the production, sale, warehousing or transporting of fresh fruits, vegetables, livestock or poultry (e.g. supermarkets, restaurants, wineries, breweries and meat packing plants).

With regard to 8a.-8k, except as follows:

_____

9. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance
_____	_____
_____	_____

12. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property and there are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights of the Property, except the following: **(If none, please state "none")**

    _____

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

    _____

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____
Seasons Land Corporation

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

PRELIMINARY REPORT

Order No.	:	19000331037
Title Unit No.	:	48
Your File No.	:	
Buyer/Borrower Name	:	Sustainable Power
Seller Name	:	Ralph Stokes and Shirley Stokes

Property Address: APN 0458-042-63, CA

In response to the above referenced application for a Policy of Title Insurance, Stewart Title Guaranty Company Commercial Services (San Diego) hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of June 17, 2019 at 7:30 a.m.

Frank Green, Title Officer

When replying, please contact: Frank Green, Title Officer

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☐ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☒ Preliminary Report

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Ralph J. Stokes and Shirley C. Stokes, and successors, as Trustees of the Stokes Family Trust, dated June 12, 2001, subject to Items 9 and 10, herein

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino and described as follows:

The South half of the South half of the West half of the Southwest quarter, Section 1, Township 6 North, Range 6 West, San Bernardino Base and Meridian, according to the Official Plat of said land approved by the Surveyor General, dated June 19, 1856.

Excepting therefrom an undivided 1/3 interest in all of the oil and gas, as conveyed to Charles G. Storie, in the deed recorded November 14, 1952 in Book 3054, Page(s) 48 of Official Records.

Also excepting therefrom 16% of all crude oil and minerals below a depth of 500 feet from the surface of said land without right of surface entry, as reserved in the deed executed by Georgia A. Olsen, recorded December 21, 1971 in Book 7820, Page(s) 258 of Official Records.

APN: 0458-042-63

(End of Legal Description)

THE MAP ATTACHED THROUGH THE HYPERLINK ABOVE IS BEING PROVIDED AS A COURTESY AND FOR INFORMATION PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. THERE WILL BE NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO ANY MATTERS CONCERNING THE CONTENTS OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 – 2020.

B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the revenue and taxation code of the State of California.

C. Assessments, if any, for Community Facility Districts affecting said land which may exist by virtue of assessment maps or notices filed by said districts. Said assessments are collected with the County Taxes.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

3. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

4. Reservations and exceptions in the Patent by the United States of America, recorded in Book L, Page(s) 19 of Patents, and recorded November 4, 1987 as Instrument No. 87-393169 of Official Records.

5. An easement for right of way of lawful width for any and all County Roads, and rights incidental thereto in favor of Southern Pacific Land Company, a corporation, as set forth in a document recorded May 1, 1923 in Book 793, Page(s) 261 of Official Records.

6. An irrevocable offer to dedicate real property recorded August 2, 1968 in Book 7071 page 126, wherein a portion of said land was offered for dedication to public use for highway and road purposes, which affects the southerly 40 feet.

7. Deed of Trust to secure an indebtedness in the amount shown below, and any other obligations secured thereby:

Amount:	$13,500.00
Dated:	September 30, 1971
Trustor:	Daniel Elkins and May Elkins, husband and wife
Trustee:	Security Title Insurance Company, A California Corporation
Beneficiary:	Georgia Alvera Olsen
Recorded:	December 21, 1971 in Book 7820, Page(s) 267 of Official Records

To avoid delays at the time of closing, please submit the original note, deed of trust, (Properly Executed) requested for reconveyance, and a final demand for pay-off executed by the record beneficiary.

In the event the demand is prepared by a servicing agent, the demand must be approved by the record beneficiary.

8. The fact that said land is included within a project area of the 1993 Victor Valley Redevelopment Plan, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded December 19, 2007 as Instrument No. 07-704538 of Official Records.

9. Any invalidity or defect in the title of the vestees in the event that the trust referred to in the vesting portion of Schedule A is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

10. If title is to be insured in the trustee(s) of a trust or their act is to be insured, we will require a full copy of the trust agreement and any amendments thereto. In certain situations the Company may accept a Trust Certificate, pursuant to Section 18100.5 of the California Probate Code in lieu of the trust agreement. The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

11. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

12. Rights or claims of parties in possession and easements or claims of easements not shown by the public records, boundary line disputes overlaps, encroachments, and any matters not of record, which would be disclosed by an accurate survey, and inspection of the land.

13. Rights of tenants in possession as tenants only under unrecorded leases.

Type/Rev SF 6-27-2019

(End of Exceptions)

NOTES AND REQUIREMENTS

A. Basic Rate

B. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:

1st Installment:	$285.27
2nd Installment:	$285.25
Parcel No.:	0458-042-63-0
Code Area:	014032

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title Guaranty Company Commercial Services (San Diego) via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title Guaranty Company Commercial Services (San Diego). Stewart Title Guaranty Company Commercial Services (San Diego) may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title Guaranty Company Commercial Services (San Diego) shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title Guaranty Company Commercial Services (San Diego) . Such benefits shall be deemed additional compensation to Stewart Title Guaranty Company Commercial Services (San Diego) for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

OWNER'S AFFIDAVIT AND INDEMNITY

Order Number: 19000331037
Address/Location: APN 0458-042-63, CA
APN:

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company (hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

6. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

7. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

8. Affiant is not aware of the existence of any of the following::
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.
   j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.
   k. Any use of the property for the production, sale, warehousing or transporting of fresh fruits, vegetables, livestock or poultry (e.g. supermarkets, restaurants, wineries, breweries and meat packing plants).

With regard to 8a.-8k, except as follows:

9. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance

12. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property and there are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights of the Property, except the following: **(If none, please state "none")**

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

Ralph Stokes

Shirley Stokes

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

CERTIFICATION OF TRUST

(California Probate Code 18100.5)

IMPORTANT: THIS CERTIFICATION OF TRUST MUST BE FULLY COMPLETED

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 19000331037
Escrow No.: 19000331037

The land referred to herein is situated in the State of California, County of San Bernardino, and described as follows:

The South half of the South half of the West half of the Southwest quarter, Section 1, Township 6 North, Range 6 West, San Bernardino Base and Meridian, according to the Official Plat of said land approved by the Surveyor General, dated June 19, 1856.

Excepting therefrom an undivided 1/3 interest in all of the oil and gas, as conveyed to Charles G. Storie, in the deed recorded November 14, 1952 in Book 3054, Page(s) 48 of Official Records.

Also excepting therefrom 16% of all crude oil and minerals below a depth of 500 feet from the surface of said land without right of surface entry, as reserved in the deed executed by Georgia A. Olsen, recorded December 21, 1971 in Book 7820, Page(s) 258 of Official Records.

APN: 0458-042-63

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: June 27, 2019

Escrow No.: 19000331037

Property: APN 0458-042-63, CA

From: Stewart Title Guaranty Company - Commercial Services

This is to give you notice that Stewart Title Guaranty Company - Commercial Services ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and Stewart Title of California. Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:

   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

STG Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you ▪ request insurance-related services ▪ provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1360 Post Oak Blvd., Ste. 100, Privacy Officer, Houston, Texas 77056**

Stewart Title Guaranty Company Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you request insurance-related services provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056**

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property: Site 2

Adelanto CA

Project No:

Report Type: *Database Report*

Order No: *20191113052*

Requested by: *Terracon Consultants, Inc.*

Date Completed: *November 14, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:		*Site 1* *Site 1 Adelanto CA*
Project No:		
Coordinates:		
	Latitude:	*34.634289*
	Longitude:	*-117.471681*
	UTM Northing:	*3,832,589.49*
	UTM Easting:	*456,767.51*
	UTM Zone:	*UTM Zone 11S*
Elevation:		*2,771 FT*

Order Information:

Order No:	*20191113052*
Date Requested:	*November 13, 2019*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials Photographs*
City Directory Search	*CD - 4 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*
terraDOCS Report	*terraDOCS (Terracon)*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	0	-	-	0
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	0	0	-	0
DELISTED LST	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	0	-	-	0
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	0	0	-	-	0
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
SANBERN CUPA	Y	.25	0	0	0	-	-	0
Additional Environmental Records								
Federal								
PFAS NPL	Y	.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
PFAS	Y	.5	0	0	0	0	-	0
PFAS GW	Y	.5	0	0	0	0	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	0	-	-	-	0
DELISTED HAZ	Y	.5	0	0	0	0	-	0
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	0	0	-	-	0
CDL	Y	.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental databases were selected to be included in the search.***							
Total:			*0*	*0*	*0*	*0*	*0*	*0*

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

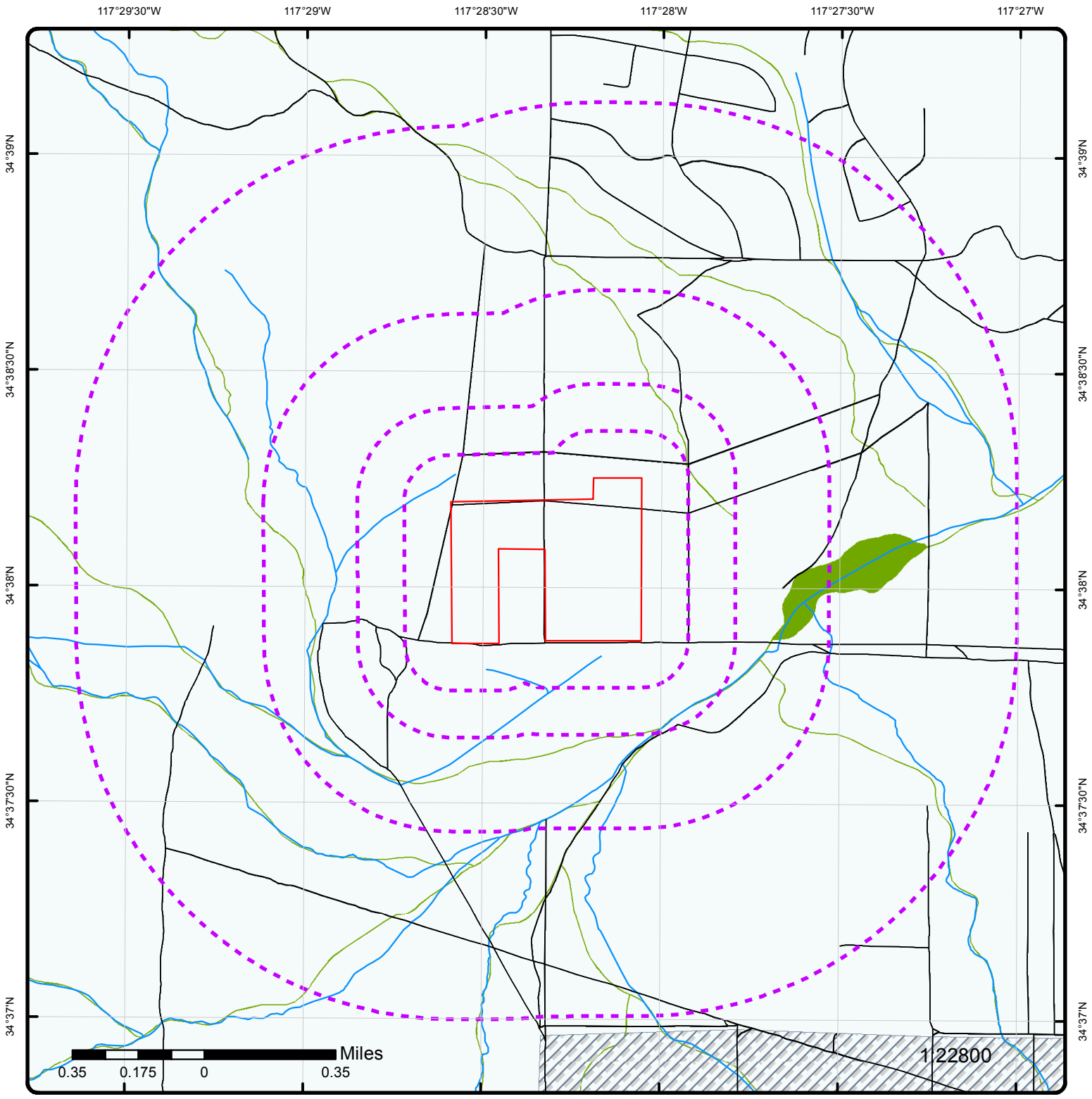
Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the surrounding properties.

Executive Summary: Summary by Data Source

No records found in the selected databases for the project property or surrounding properties.



Map : 1 Mile Radius

Order No: 20191113052

Address: Site 1, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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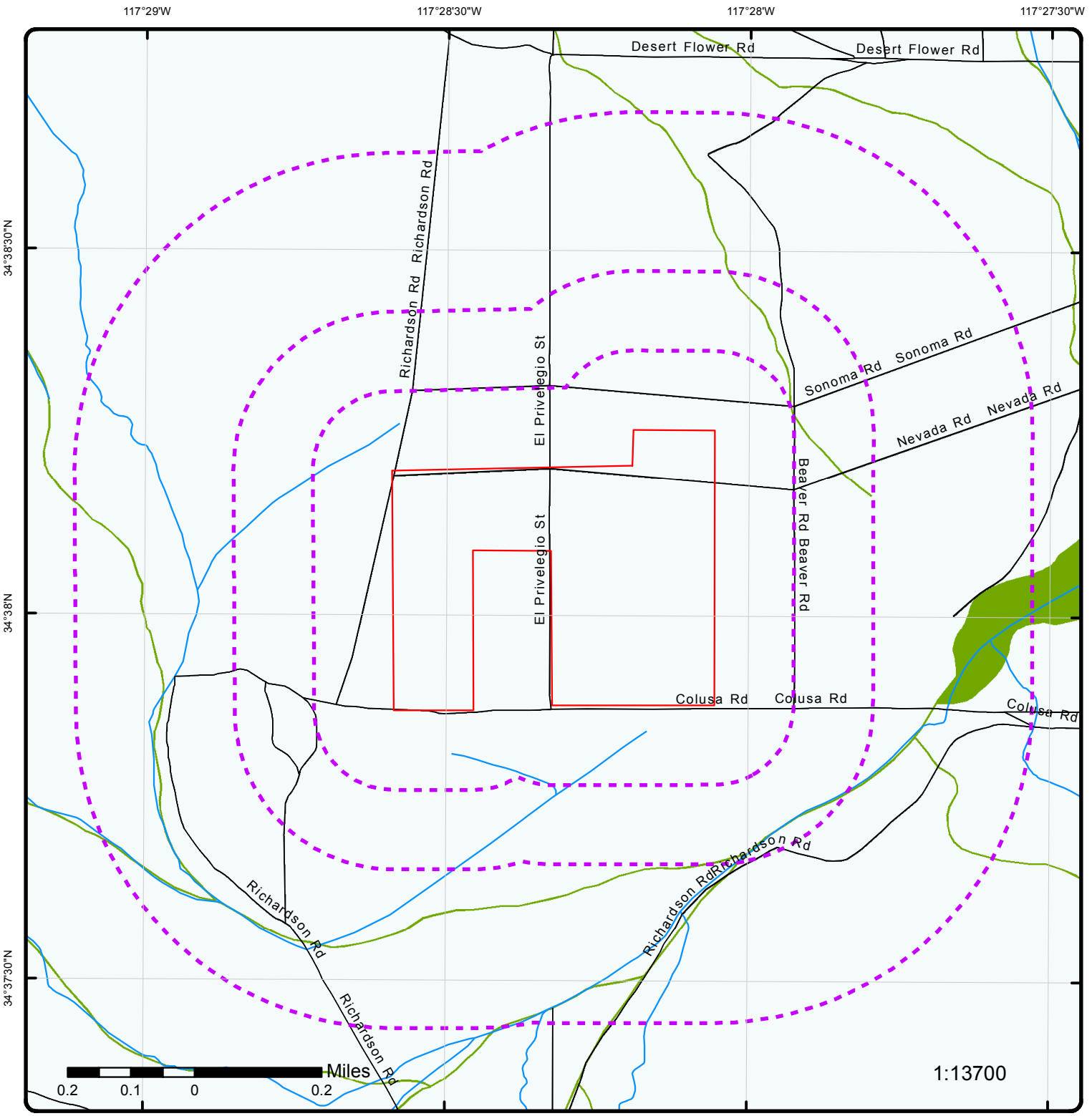

Map : 0.5 Mile Radius

Order No: 20191113052

Address: Site 1, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

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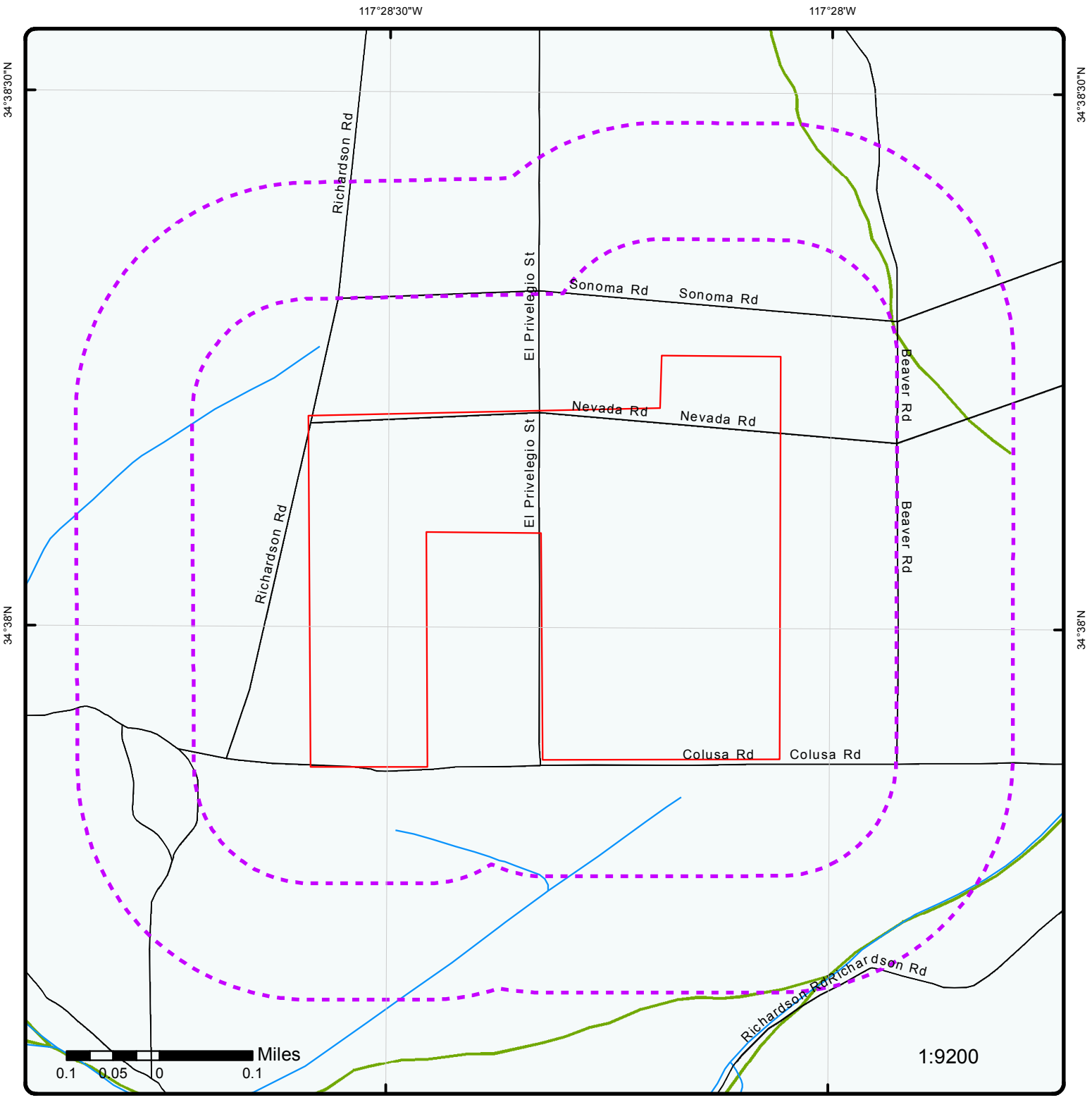


Map : 0.25 Mile Radius

Order No: 20191113052

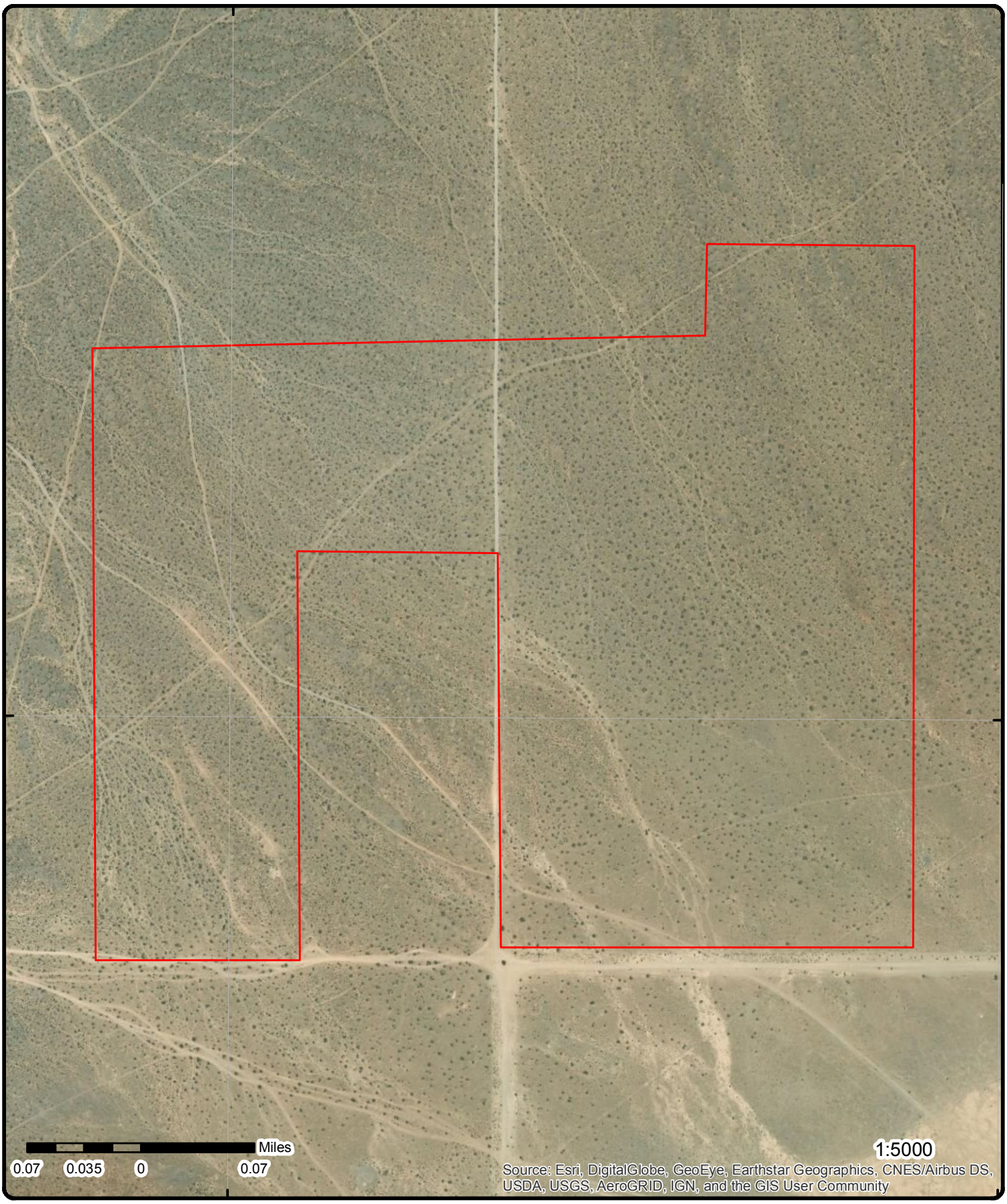
Address: Site 1, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

© ERIS Information Inc.



Aerial (2018)

Address: Site 1, Adelanto, CA

Source: ESRI World Imagery

Order No: 20191113052

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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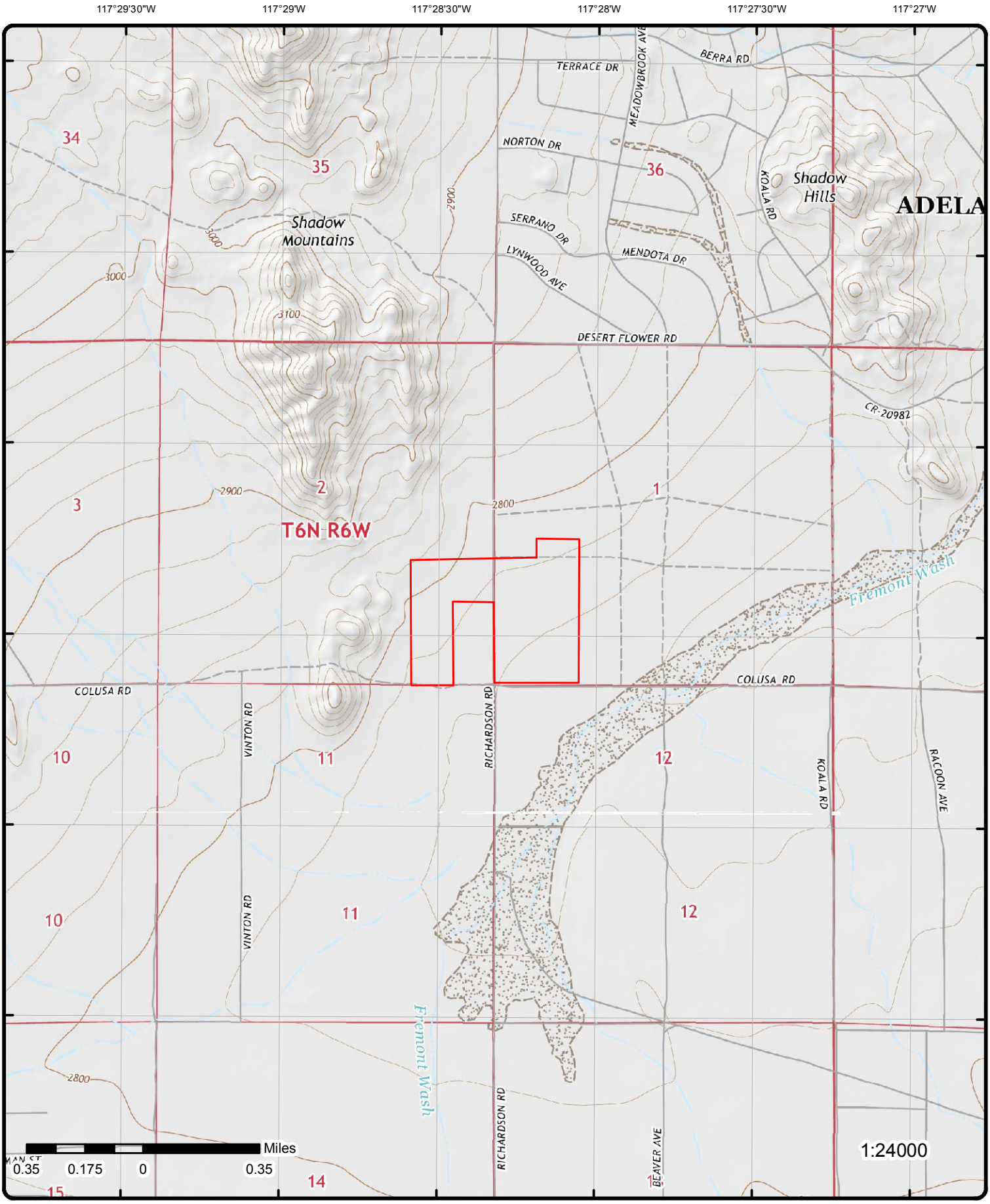

Topographic Map (2015)

Address: Site 1, Adelanto, CA

Quadrangle(s): Victorville NW,CA; Adelanto,CA;

Source: USGS Topographic Map

Order No: 20191113052

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

No records found in the selected databases for the project property or surrounding properties.

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Aug 20, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Aug 20, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Aug 20, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Aug 20, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Aug 20, 2019

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Aug 26, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Aug 26, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Aug 26, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Aug 26, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Aug 26, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Aug 26, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jun 11, 2019

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jun 11, 2019

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Oct 8, 2019

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Aug 20, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Aug 20, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Oct 1, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Oct 1, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Oct 1, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Aug 19, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Oct 1, 2019

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Jul 17, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jul 17, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Oct 8, 2019

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 17, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Oct 8, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Sep 11, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Oct 1, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Sep 23, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jul 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Oct 1, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jul 17, 2019

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Oct 4, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Aug 19, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

County

San Bernardino County - CUPA List: SANBERN CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in San Bernardino County. This list is made available by San Bernardino County Fire Department which is the CUPA for all areas of the County except the city of Victorville.

Government Publication Date: Oct 17, 2019

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Nov 15, 2018

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Aug 12, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Sep 26, 2019

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Aug 20, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: May 3, 2019

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Oct 1, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: May 31, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jul 17, 2019

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.Y

Government Publication Date: Oct 17, 2019

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Aug 27, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Jul 16, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Oct 1, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jul 15, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Jul 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Jul 17, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Meg Haile

Assistant Scientist

PROFESSIONAL EXPERIENCE

Meg is an assistant scientist in Terracon's Tustin, California office, she transferred from the Houston, Texas office in October of 2019. In the Tustin office she helps prepare Phase I Environmental Site Assessment (ESA) reports. These efforts involve field survey, interviews with property owners, Environmental Data Resource reports and file reviews at local county and city regulatory offices. As required, each ESA is prepared and finalized in accordance with new ASTM Standards. In the Houston office Meg worked within the Regulatory Compliance department. There she assisted project managers in preparation of Stormwater Pollution Prevention Plans (SWPPPs), Spill Prevention Control and Countermeasures (SPCCs), Municipal Separate Storm Sewer System permits (MS4) and Texas Department of Transportation (TXDOT) outfall mapping. She added in the field monitoring and sampling to confirm her clients were in compliance with necessary permits.

PROJECT EXPERIENCE

Solar Farm – Adelanto, California

Meg aided in the site reconnaissance of vacant land to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

Food Processing LECA – Vernon, California

Meg aided in the drafting of a Limited Environmental Compliance Assessment determining if the facility was in compliance and up to date with all necessary environmental permits. This included reaching to government agencies to obtain current permits and inspecting documents provided by the client to determine what corrections needed to be made.

Food Processing ESA – Vernon, California

Meg aided in the site reconnaissance of an industrial food production facility to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

EDUCATION

Bachelor of Science,
Wildlife and Fishery Science,
Texas A&M University, College Station, TX

WORK HISTORY

Terracon Consultants, Inc.,
Assistant Scientist,
July 2019 – Present

Texas A&M University,
Student Researcher,
2017-2018

DBS Allergy,
Allergy Technician,
2016-2019

Jennifer S. Van

Project Manager



PROFESSIONAL EXPERIENCE

Ms. Van is an Environmental Group Manager in Terracon's Orange County, California Office. She has over seven years of experience in Environmental Services; Phase I Environmental Site Assessments (ESAs), Limited Subsurface Investigations (LSIs), Spill Prevention, Control and Countermeasure Plans, Radon Measurement Provider. In addition, Ms. Van has some experience with regulatory compliance. Ms. Van assists with client and team management.

PROJECT EXPERIENCE

Environmental Site Assessment (ESAs):

Performed and managed hundreds of ESAs in California and several in Hawaii and Alaska for industrial, commercial, residential, and agricultural properties. Managed long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers and other real property owners. Understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water and groundwater. Is experienced in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined in Section 312.10 of 40 CFR 312.

Radon Assessments

Performed and managed over 10 radon assessments including commercial and residential in California.

Limited Subsurface Investigations (LSIs):

Performed and managed over 10 LSI's in California. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data.

Spill Prevention, Control And Countermeasure Plans (SPCCs)

Ms. Van has experience with federal and state requirements for Spill Prevention, Control and Countermeasure Plans for Tier I and II qualified facilities.

EDUCATION

Bachelor of Science,
Environmental Sciences: Natural Sciences.
Minor: Business Administration
University of California Riverside, California, 2011.

Masters: Environmental Engineering
California State University, Fullerton, 2018

CERTIFICATIONS

24-Hour AHERA Asbestos Abatement Building Inspector
40-Hour OSHA HAZWOPER
National Radon Proficiency Program
Residential Measurement Provider

WORK HISTORY

Terracon Consultants, Inc. (Tustin, CA). Environmental Group Manager
February 2018 to Present

Terracon Consultants, Inc. (Irvine, CA). Senior Staff Scientist
2014 to February 2018

Terracon Consultants, Inc. (Irvine, CA). Staff Scientist
August 2011 to 2014

Regulatory Compliance, Buena Park and Tipton, California
Project Manager for two regulatory compliance projects in Buena Park and Tipton, California, which included refrigeration and multiple dairy facilities.

Military Base Phase I ESAs and Soil Management Plans – San Diego County, California
Project Manager of ESAs and SMPs of over 100 sites for proposed telecommunication small cell locations within naval bases located within the San Diego County. Findings of the ESAs were utilized in creation of the SMPs, which was implemented at the installation of telecommunications utilities on the various bases.

Automotive Body Shop Portfolio, California
Portfolio assistant manager of environmental consulting services including Phase I ESA. The purpose of the services were to assist a client with a large acquisition of properties.

Resumes

Islam (Sami) R. Noaman, EIT

Senior Associate / Senior Project Manager



PROFESSIONAL EXPERIENCE

Mr. Noaman is an Environmental Department Manager with track record in client management, management of phases of environmental site assessments (ESAs), industrial hygiene services, business environmental risk reviews, site characterizations, regulatory compliance services, and remedial investigation. He possesses excellent analytical, problem solving, advisory, and team management skills.

PROJECT EXPERIENCE

Stormwater Prevention and Pollution Control Plan (SWPPP):
Managed SWPPP for numerous industrial sites in Southern California. Scope of the work typically included client and agency coordination, implementation of guidelines required by the state of California Water Resources Board (SWRB), and preparation of documentations for submittals to the SWRB. In addition, I have managed several limited regulatory compliance projects (annual submittals and Level 1 ERA reporting) for industrial stormwater, to achieve compliance in accordance with the NPDES general permit requirements.

Limited Subsurface Investigations (LSIs):
Performed and managed hundreds of LSIs in California, New Jersey, and New York. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data to pursue closure through state and federal programs including Los Angeles County Site Mitigation Unit, the California Regional Water Quality Control Board, and the Department Of Toxic Substances Control Voluntary Cleanup Programs (VCP).

Hazardous Materials Surveys:
Mr. Noaman is the Industrial Hygiene Manager in the Orange County, California office. He managed numerous hazardous materials surveys in the state of california including, but not limited to, asbestos, lead in paint, mold, pcbs, and mercury-containing equipment.

EDUCATION

Bachelor of Science, Chemistry/Environmental Chemistry, 2002, City University of New York, City College of New York

Pursuing Masters in Environmental Engineering (California State University Fullerton-expected graduation date Spring 2019)

CERTIFICATIONS

Certified Engineer In Training (CA) Certification No. EIT 171371
40-Hour OSHA Hazardous Waste Operations & Emergency Response Training Course

WORK HISTORY

Terracon Consultants, Inc. (Irvine, CA), Environmental Group/Department Manager, June 2012 to Present

Smith Emery GeoServices (SEG), (Los Angeles, CA), Project Engineer, August 2008 to June 2012

KLK Environmental Group LLC. (Kearny, NJ). Environmental Scientist -August 2003 to June 2008

UniChem Inc. (Kearny, NJ). Staff Environmental Chemist - August 2002 to June 2003

Islam (Sami) R. Noaman, EIT (continued)

Major Department Store Commercial Retail Portfolio:
Environmental team lead for evaluating environmental site conditions and due diligence review, including overseeing Phase I Environmental Site Assessments and Phase II Environmental Site Investigations for over thirty retail facilities with automotive maintenance across California. Findings from subsurface investigations were used to support regulatory closure of select facilities to facilitate a real estate transaction across the United States.

Industrial Facility – Land-use Change/Private School, Los Angeles, CA:
Environmental consulting services including Phase I Environmental Site Assessments (ESA) due diligence support, subsurface investigation activities to evaluate environmental media including soil, soil gas and indoor / outdoor air. Services included a land-use change from an industrial facility to a private school. Prepared environmental investigation reports, regulatory interaction, corrective action design for indoor air mitigation, and work plan for management of environmental media.

Retail Shopping Center – Former Dry Cleaners Facility – DTSC, Fremont, CA:
Conducted extensive site investigation activities to evaluate the magnitude and extent of chlorinated solvents identified in the vicinity of a former dry cleaners facility, including an evaluation of groundwater, soil, soil-gas and indoor vapors as a result of a chlorinated solvent plume. Project responsibilities consisted of direct support and interaction with client, client legal team and DTSC representatives to manage the closure process, including the preparation of work plans and environmental investigation reports, risk-based human health evaluation, and response actions.

Underground Storage Tank Assessment and Monitoring – West Los Angeles, CA:
Assisted property owner with the regulatory closure of former underground storage tank (UST) site located in West Los Angeles, California. The project scope included historical research of past site use and site characterization, including soil, groundwater and soil gas assessments, followed by groundwater monitoring until closure was achieved.

Automated Fuel Dispensing Facilities – Camp Pendleton, California:
Project scope included environmental and geotechnical investigations at six fueling existing/proposed facilities within Camp Pendleton, California. The project consisted of construction of new buildings, canopies, pavements, retaining walls, slopes, and installation of underground storage tanks (USTs), and other site facilities. Served as the environmental group leader.

Emerson College, Hollywood, California:
Conducted comprehensive investigation and assisted the client through enrolling and interacting with the LAFD regarding USTs found during construction activities. Provided construction management oversight to manage impacted soils and assisted the client in waste disposition, permitting and regulatory compliance interaction. A total of 45,000 cubic yards of soil was removed from the site and disposed at an off-site facility, prior to the construction of a mid-rise school complex. Support services allowed for significant savings in construction, on an expedited timeline in concert with the construction schedule.

Los Angeles Unified School District (LAUSD Sites):
Managed soil characterization for export/import soils for over nine Los Angeles Unified School District (LAUSD) sites. Prepared Sample Strategy Plans (SSP) for stockpiled and in-place soils, oversaw the sampling, and prepared soil certification reports under the supervision of a professional geologist for submittal to the LAUSD Office of Environmental Health.

Islam (Sami) R. Noaman, EIT (continued)

Newton Plastics, Newton, NJ:

Managed the removal of two 12,000-gallon (solvents & gasoline containing) USTs from a plastic products manufacturing facility as a part of transaction deal. Project tasks included, work plan preparation, regulatory officials interface, client contact/coordination, oversight of removal activities, and report preparation. No further action letter from NJDEP was obtained for the client. The property value was retained for the client with our consulting services.

Eagle Electric, Queens, NY:

Responsibilities were to manage the cleanup of former Coal storage rooms in basement of a landmark building in Queens, NY. The cleanup activities included, hauling of approximately 425 tons of Class N-1 Hazardous materials, managed and ensured safety of eight to twelve crew, handling of waste manifests, and coordination for transportation / disposal and client interface.

AROL Chemicals, Newark, NJ:

Managed Phase I and Phase II ESA of chemical manufacturing facility. Scope of Phase II ESA included, the removal of three 12,000-gallon USTs, excavation and disposal of impacted soils.

KeySpan Energy, NY:

Responsibilities include inspection and maintenance of client boilers and tanks systems. Objectives were to prevent scaling/rusting in the boiler systems resulting from the plant operations to maintain operations efficiency. Goals were achieved for the client by developing environmentally friendly chemical reagents (pH controlled) to mitigate the concerns at the plant, boilers maintenance issues were resolved and steady business was created for the company.

The HACH Company, OH:

Implementing unique techniques producing Ferrozine - Iron- reagent for determining trace levels of iron in chemical reagents and glycols. Ferrozine can also be used to analyze samples containing magnetite (black iron oxide) or ferrites.

KIWA of The Netherlands:

Research and development of new synthetic methods of alkali Ferrates including, Potassium, Sodium, and Barium ferrates, an environmentally friendly oxidative reagents used in wastewater treatment for municipal and industrial facilities.

Resumes

Fabio M. Minervini, PG

Environmental Department Manager



PROFESSIONAL EXPERIENCE

Mr. Minervini is a Geologist (P.G.) licensed to practice in the states of California and Oregon with over 20 years of experience in environmental services. He is familiar with all aspects of the environmental industry. During his career, he has managed hundreds of investigation and remediation projects involving soil, groundwater, and soil gas issues; vapor intrusion issues from migrating impacted soil gas; and dissolved plumes, at times commingled with plumes originating at other sources. Mr. Minervini has evaluated and interpreted assessment data, as well as designed groundwater monitoring programs. His experience includes proposing and evaluating the feasibility of various remedial technologies and subsequently managed the engineering design, installation, and operation and maintenance of a variety of remedial systems. In addition, he has provided litigation support related to hydrocarbon contamination at retail fuel stations.

Mr. Minervini has interacted with a variety of regulatory agencies in California in the form of maintaining projects in compliance with agency requirements, as well as proposed work in the voluntary assistance programs on behalf of his clients.

Mr. Minervini has also been responsible for the management of non-technical duties such as conducting job interviews and hiring decisions, as well as annual performance reviews and compensation adjustments, for a team of more than 10 employees.

EDUCATION
Bachelor of Science, Geology, University of California Los Angeles, 1991

REGISTRATIONS
Professional Geologist: California, No. 7861

Registered Geologist: Oregon, No. G2477

CERTIFICATIONS
40-Hour HAZWOPER

Petroleum Education Council, Certification No. 1001022451

Radiation Safety and Use of Nuclear Gauges, Certification No. 21966

AFFILIATIONS
Western States Petroleum Association (WSPA)

National Ground Water Association

Other Affiliations

PROJECT EXPERIENCE

Tesoro Refining and Marketing Company, LLC
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Lead Scoper (and Lead Executer after September 2008) for the Orange County Portfolio (yearly revenue approximately $2.5 million). Managed technical and financial aspects associated with the assessment and remediation of leaking underground storage tank cases in Orange County, California.

Fabio M. Minervini, PG (continued)

ConocoPhillips
Managed site assessment and characterization, groundwater investigation and monitoring, and site remediation for service stations impacted by petroleum hydrocarbon releases in San Mateo County, California.

Atlantic Richfield Company (ARCO)
Managed the assessment of releases from underground storage tanks, the investigation and monitoring of dissolved hydrocarbon plumes, and the remediation of ARCO Stations in the California Desert/East Los Angeles Portfolio.

California Department of General Services
Managed assessment and monitoring of dissolved petroleum hydrocarbons from leaking underground storage tanks at various sites in Merced, Santa Barbara, Riverside, and San Diego Counties, California. Obtained case closure from the Riverside County Department of Environmental Health Services for the forest fire station in Temecula, California.

Kern County General Services Division
Managed ground water monitoring and remediation of the dissolved petroleum hydrocarbons plume originated from the leak of an underground tank storing gasoline at the fire station in Bear Valley Springs, California.

Orange County District Attorney
Managed the third party technical oversight project pertaining to the legal settlements between the Orange County District Attorney Office and Atlantic Richfield Company, and Shell Oil. The role of the third party consultant was to independently review the corrective action at ARCO and Shell gas stations in Orange County, California and provide recommendations, as warranted.

UST Fund Commingled Plume Site No. 00024
Managed under the California Underground Storage Tank Reimbursement Fund Account the site assessment, remediation, and monitoring of the petroleum hydrocarbon impacted soil and ground water at the commingled plume site consisting of ARCO Station 0087 and former Unocal Station 5865 in Hawthorne, California.

Dunn-Edwards Corporation
At a property in Escondido, California, formerly a Unocal service station, managed multiple phases of investigation and characterization of petroleum hydrocarbon impacted soil and ground water.

Dunn-Edwards Corporation
At a property leased in Long Beach, California, obtained a ”no further action” letter from the City of Long Beach Department of Environmental Health Services for the self-initiated site assessment related to the operation and maintenance of a 10,000-gallon underground storage tank storing paint thinner.

Fabio M. Minervini, PG (continued)

Boeing Realty Corporation
Conducted and reported site characterization activities related to the contamination by diesel fuel at the STEVS Unit on the Boeing plant in Huntington Beach, California.

Bradmore Realty Investment Company
Conducted Phase I Investigations for real estate transactions at sites in Los Angeles County, California.

ARCO Products Company
At various service stations in Los Angeles, Orange, and San Diego Counties, California, managed the site characterization, remediation, and groundwater monitoring programs. Managed the removal and replacement of underground storage tanks, and the complete demolition of service stations. Provided technical support in litigation related to petroleum hydrocarbon contamination at service stations in Orange County, California.

Various Responsible Parties
Reviewed files related to environmental issues at various agencies in Southern California.

San Diego Naval Station
Performed investigation and risk assessment study for petroleum hydrocarbon- and metals-impacted sites in the San Diego Harbor, California.

Marine Corps Air Base
Conducted pilot-scale ground water extraction test for remediation of the dissolved-phase trichloroethylene (TCE) and tetrachloroethylene (PCE) plumes at the base in Tustin, California.

Coto de Caza, Private Residential Community
Assisted in the fixation of lead project at the gun range in Coto de Caza, California.

Allied-Signal Chemical Plant
Conducted soil-gas investigation of halogenated volatile organics plume in vadose zone at the plant in El Segundo, California.

Shell/Parsons Reservoirs
Performed two phases (floor and berms) of mitigation by soil blending, remediation by thermal desorption, and closure with low permeability cap of crude oil reservoirs at the Tosco Refinery in Carson, California (former property of Shell Oil Company). Subcontracted by The Ralph M. Parsons Company for both environmental and geotechnical activities.

Reichhold Chemical Plant
Conducted soil-gas investigation of polychlorinated biphenyls (PCBs) in the vadose zone installing multiple completion wells with dual tube air percussion Stratex rig at the plant in Azusa, California.

Fabio M. Minervini, PG (continued)

Caltrans
Assisted in the storm water facilities retrofit evaluation for the Santa Monica Bay watershed in Los Angeles County, California.

Grayson Power Plant
Conducted HydroPunch investigation of trichloroethylene (TCE) Plume in vadose zone and ground water at the plant in Glendale, California.

Shell Offshore, Inc
Performed downhole pressure and temperature data collection, and reservoir interpretation analysis on production platform at Eugene Island Field, Block 331, Gulf of Mexico.

Conoco Oil, Inc.
Assisted in the drill stem test of multiple zones at the West Delta Field, Block 96, Gulf of Mexico.

Exxon, U.S.A.
Assisted in the perforation of multiple productive zones at the South Pass Field, Block 89, Gulf of Mexico.

Oryx Energy Company
Assisted in the flow test of the Upper Zone on the semi-submersible rig Ocean Voyager at the Mississippi Canyon Field, Block 445, Gulf of Mexico.

Leighton & Associates
Performed soil observation, sampling, and testing during mass grading and utilities installation as part of the San Joaquin Hills Transportation Corridor (Wood Canyon) Project conducted by the Mission Viejo Company in the Laguna Hills.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms

Term/Acronym	Description
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

Description of Selected General Terms and Acronyms

Term/Acronym	Description
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water 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. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix E PHASE I ENVIRONMENTAL SITE ASSESSMENTS

E.4 PHASE I ENVIRONMENTAL SITE ASSESSMENT BALDY MESA SOLAR PHASE II SITE 3

Phase I Environmental Site Assessment

Baldy Mesa Solar Phase II – Site 3

APNs: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 and 045811325

Adelanto, San Bernardino County, California

December 23, 2019

Terracon Project No. 60197507.3



Prepared for:
Sustainable Power Group, LLC (sPower)
Long Beach, California

Prepared by:
Terracon Consultants, Inc.
Tustin, California

December 23, 2019

Sustainable Power Group, LLC (sPower)
5000 East Spring Street, Suite 130
Long Beach, CA 90815

Attn: Mr. Dallas Pugh
P: (562) 348-1119
E: dallas.pugh@spower.com

Re: **Phase I Environmental Site Assessment**
Baldy Mesa Solar Phase II – Site 3
APNs: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 and 045811325
Adelanto, San Bernardino **County**, California 92301
Terracon Project No. 60197507.3

Dear Mr. Pugh:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed information on **all of Terracon's** services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Jennifer S. Van
Environmental Group Manager

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

for Fabio M. Minervini, P.G.
California Licensed Geologist No. 7861

Attachments

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APPENDICES

APPENDIX A Exhibit 1 - Topographic Map,
Exhibit 2 - Site Diagram – Plot 1
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APPENDIX B Site Photographs

APPENDIX C Historical Documentation and User Questionnaire

APPENDIX D Environmental Database Information

APPENDIX E Credentials

APPENDIX F Description of Terms and Acronyms

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019.and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Jennifer S. Van and Meg Haile performed the site reconnaissance on November 26, 2019.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site consists two contiguous plots of land identified here in as Plot 1 and Plot 2 separated by undeveloped land. Plot 1 consists of approximately 329.13 acres of undeveloped land with a water well on the eastern portion and Plot 2 consists of approximately 41.45 acres of undeveloped land. Plot 1 is located approximately 40 feet northwest of the intersection of El Mirage Road and Richardson Road and Plot 2 is located approximately 1,340 feet northwest of El Mirage Road and Richardson Road in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Numbers (APNs): 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 and 045811325). At the time of reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on review of historical information the site consisted of undeveloped land with an unnamed creek along the southeastern portion of Plot 1 of the site from as early as 1948 through the late 1950s. In the late 1950s, the site consisted of unimproved roads along the eastern boundaries of Plot 1 and Plot 2. From the late 1960s through the mid-2000s, an unimproved road was observed through the central portion of Plot 1, and since the mid-2000s, the site has remained relatively unchanged through the present.

The surrounding properties consisted of undeveloped land and an unnamed creek, El Mirage Road running parallel to the southern boundary of the site and a commercial building to the adjoining west of Plot 1 from as early as 1948 through the late 1960s. The existing commercial building (Norco Shadow Mountain Ranch) to the west of Plot 1 of the site was developed in the 1990s. The existing commercial building located to the adjacent south of Plot 2 was developed in the mid-1990s. In the mid-2000s addition trails and unimproved roads were observed to the north, west and south of the site.

Records Review

Terracon reviewed selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies. The site was not identified in the regulatory databases. The database report identified 20 facilities within the specified search radii. The facilities listed in the database report do not appear to represent RECs to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Site Reconnaissance

During the site reconnaissance, Terracon observed buried fiber optic cable markers, petroleum pipelines, water lines, a water well and trash and debris (approximately 15 cubic yards, including tires, concrete construction demolition debris a household wastes). Recognized environmental conditions (RECs) were not identified

Based on a review of the National Pipeline Mapping System (NPMS), there is a hazardous liquid pipeline that runs parallel to Highway 395. The pipelines are not listed in the regulatory database and a release was not identified in the regulatory review. Based on the absence of reported releases and regulatory status, the off-site identified pipelines do not represent a REC to the site.

Adjoining Properties

The property to the adjoining north of Plot 1 and 2 of consisted of undeveloped land. The property to the adjoining east of Plot 2 consisted of Richardson Road (unimproved road) followed by undeveloped land. The property to the adjoining south of Plot 1 and Plot 2 of the site consisted of El Mirage Road (asphalt-paved road) followed by a commercial building (8870 El Mirage Road) located to the southeast of Plot 2 and undeveloped land and unimproved roads south of Plot 1. The property to the adjoining west of Plot 1 consists of Norco Shadow Mountain Ranch (8402 El Mirage Road) and undeveloped land. The property to the central adjoining of Plot 1 and 2 of the site consisted of undeveloped land.

Significant Data Gaps

Significant data gaps were not identified.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-13 of Baldy Mesa Solar Phase II – Site 3 located at approximately 40 feet northwest of the intersection of El Mirage Road and Richardson Road in Adelanto, San Bernardino County, California 923001 (Accessor Parcel Number (APNs): 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 and 045811325). RECs or Controlled RECs (CREC) were not identified in connection with the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this site assessment, Terracon did not identify RECs in connection with the site. As such, no additional investigation is recommended at this time.

One water well was observed at the time of the site reconnaissance. If this well is not planned for use in connection with the future site development, Terracon recommends decommissioning of the well in accordance with applicable regulatory requirements.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Baldy Mesa Solar Phase II – Site 3
Site Location/Address	The site consists two contiguous plots of land identified here in as Plot 1 and Plot 2 separated by undeveloped land. Plot 1 consists of approximately 329.13 acres of undeveloped land with a water well on the eastern portion and Plot 2 consists of approximately 41.45 acres of undeveloped land. Plot 1 is located approximately 40 feet northwest of the intersection of El Mirage Road and Richardson Road and Plot 2 is located approximately 1,340 feet northwest of El Mirage Road and Richardson Road in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Numbers (APNs): 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 and 045811325).
Land Area	Approximately 370.58 Acres
Site Improvements	None
Anticipated Future Site Use	Commercial use of Solar farm
Purpose of the ESA	Conditional use permit for development and operation of a photovoltaic solar utility plant.

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019 and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and

liquid at the surface or subsurface, and vapor in the subsurface." By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- Due to dense vegetation, the central portions of Plot 1 and 2 of the site could not be accessed and surface conditions could not be observed.
- At the issuance of this report, a response has not been received from the Adelanto City Clerk and Mojave Desert Air Pollution Control District Based on a review of the historical information and the regulatory database, the absence of these responses does not represent a data gap to the site.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Sustainable Power Group, LLC (sPower). Use or reliance by any other party is prohibited without the written authorization of Sustainable Power Group, LLC (sPower) and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Mr. Dallas Pugh, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 2,780 – 2,820 feet above sea level	USGS Topographic Map, Victorville NW and Adelanto California, 1993 Map (Appendix A)
Topographic Gradient	Towards the northeast	
Closest Surface Water	Fremont Wash, located on the northwestern portion of Plot 1 of the site.	
Soil Characteristics		
Soil Type	Lavic loamy fine sand	San Bernardino County, California, Mojave River Area (CA671) Dated September 17, 2019
Description	The soil is moderately well drained with 0 to 5 percent slope. Parent material consists of alluvium derived from granite sources. Typical soil profile is gravelly loamy fine sand from 0 to 10 inches, loamy sand, loamy fine	

Physical Setting Information		Source
	sand, loam and sandy loam from 10-20 inches and stratified sand to loamy sand from 20 to 49 inches.	
Geology/Hydrogeology		
Formation	Q, Quaternary Deposits	California Department of Conservation, Geologic Map of California, Dated 2010
Description	Alluvium lake, playa and terrace deposits. Unconsolidated and semi-consolidated.	
Estimated Depth to First Occurrence of Groundwater	Depth to groundwater in the region is approximately 300 feet below grade surface (bgs), reported at a site located approximately 2 miles east of the site.	GeoTracker Gamma Global ID S8_MOBS_R09
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the northeast).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15 year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from ERIS to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic maps:
  - Victorville, California published in **1956** (1:62,500)
  - Victorville, North West California published in **1956, 1968, 1993, and 2015 (1:24,000)**
  -

- Aerial photographs:
  - USAF, **1948,** 1"=500'
  - USGS, **1952, 1968, 1978**, and **1995,** 1"=500'
  - ASCS, **1959,** 1"=500'
  - NHAP, **1985,** 1"=500'
  - NAIP**, 2005, 2010, 2012**, and **2018,** 1"=500'

Historical Maps and Aerial Photographs

Direction	Description
Site	Undeveloped land with unnamed creek running through the southeastern portion of Plot 1 (1948-1954); an unimproved road along the eastern boundary of Plot 1 and Plot 2 (1954-1959); unimproved road through the middle of plot 1 is observed (1968-2018).
North	Undeveloped land with an unimproved road to the north and to the north east (1948-1978); additional unimproved roads to the north observed (1985-2018).
East	Undeveloped land with an unimproved road to the north east (1948-2018).
South	Undeveloped land with unnamed creek due south with asphalt-paved road and unimproved road to the south west (1948-1968); additional unimproved roads to the south (1978); additional unimproved roads to the south (1985); developed with commercial building to the southeast of plot 2 (1995-2018).
West	Developed with commercial buildings to the adjoining west of Plot 1 of the site, asphalt-paved road and unimproved roads south west and (1948-1959); expansions to commercial buildings to the west of Plot 1 of the site (1968-1985); no apparent changes (1995-2018).
Central Adjoining	Undeveloped land with unnamed creek running from the northwest towards the south (1948-2018)

3.2 Historical City Directories

City directory reviews were conducted by ERIS and address listings were not identified at the site or surrounding properties.

3.3 Site Ownership

Based on an interview with Mr. Dallas Pugh, Permitting Manager, and review of files from Public San Bernardino County Parcel Viewer, the current owner is Adelanto School District (APN: 045811325), Adelanto LLC. (APNs: 045811205, 045811214, 045811224 and 045811225), Rhee Revocable Living Trust (APN: 045811215) and Shree Properties INC. (APN: 045811226).

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individual was interviewed regarding the current and historical use of the site.

Interviewee

Interviewer	Name / Phone #	Title	Date/Time
Jennifer Van	Mr. Dallas Pugh / 562-348-1119	Permitting Manager	November 11, 2019 Via e-mail

Terracon interviewed Mr. Dallas Pugh on November 11, 2019. Mr. Pugh indicated that to his knowledge the site is undeveloped land and there are not any businesses operating on the site. Mr. Pugh discussed that illegal dumping has taken place on the site and in the vicinity. Mr. Pugh was aware of utility pipelines running through the site. He further indicated that the area in known to be occupied by desert tortoise, Mojave ground squirrel, burrowing owl, American badger, and kit foxes.

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow

direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERC	Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS	0.5	0
CERL	CERCLIS Liens	Site	0
CNFR	CERCLIS - No Further Remedial Action Planned	0.5	0
EC	Federal Engineering Controls-ECs	0.5	0
ERN1	Emergency Response Notification System	Site	0
ERN2	Emergency Response Notification System	Site	0
ERNS	Emergency Response Notification System	Site	0
FBFL	The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database	0.5	0
FRS	Facility Registry Service/Facility Index	Site	0
HMIR	Hazardous Materials Information Reporting System	0.10	0
HTSC	Hist TSCA	0.10	0
IC	Federal Institutional Controls- ICs	0.5	0
IODI	EPA Report on the Status of Open Dumps on Indian Lands	0.5	0
NCDL	National Clandestine Drug Labs	Site	0
NPL	National Priority List	1.0	0
NPLD	Delisted NPL	0.5	0
NPLP	National Priority List - Proposed	1.0	0
ODI	Inventory of Open Dumps, June 1985	0.5	0
RCOR	RCRA CORRACTS- Corrective Action	1.0	0
RGEN	RCRA Generator List	0.25	0
RNGN	RCRA Non-Generators	0.25	0
RTSD	RCRA non-CORRACTS TSD Facilities	0.5	0
TRI	Toxics Release Inventory (TRI) Program	Site	0
TSCA	Toxic Substances Control Act	0.10	0
FINDS/FRS		0.12	4

State/Tribal 0Databases

Database	Description	Distance (miles)	Listings
AST	Aboveground Storage Tanks	0.25	1
CDL	Clandestine Drug Lab Sites	0.10	0
CHMR	California Hazardous Material Incident Report System (CHMIRS)	Site	0
DEED	Deed Restrictions and Land Use Restrictions	0.5	0
ENVS	EnviroStor Database	1.0	0
GTCL	GeoTracker Cleanup Sites Data	0.5	0
HLUR	Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions	0.5	0
HWF	EnviroStor Hazardous Waste Facilities	1.0	0
ICE	EnviroStor Inspection, Compliance, and Enforcement	1.0	0
ILST	Leaking Underground Storage Tanks (LUSTs) on Indian Lands	0.5	0
IUST	Underground Storage Tanks (USTs) on Indian Lands	0.25	0
LDS	Land Disposal Sites	0.5	0
LUR	Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions	0.5	0
LUST	Leaking Underground Fuel Tank Reports	0.5	1
RESP	State Response Sites	1.0	0
SCH	School Property Evaluation Program Sites	1.0	0
SWAT	Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report	0.5	0
SWF	Solid Waste Information System (SWIS)	0.5	0
UST	Permitted Underground Storage Tank (UST) in GeoTracker	0.25	0
VCP	Voluntary Cleanup Program	0.5	0
HHSS	Historical Hazardous Substance Storage Information Database	0.25	1
CERS TANK	California Environmental Reporting System (CERS) Tanks	0.25	1
HIST TANK	Historical Hazardous Substance Storage Container Information – Facility Summary	0.25	1
SANBERN CUPA	San Bernardino County – CUPA List	0.25	2
HAZNET	Hazardous Waste Manifest Data	0.12	4
HIST CHMIRS	Historical California Hazardous Material Incident Report System (CHMIRS)	0.12	2
EMISSIONS	Toxic Pollutant Emissions Facilities	0.25	3

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix D.

The site was not identified in the regulatory databases.

The following table summarizes information provided by the database and/or gathered by this office for identified facilities within 500 feet radii of the site. Facilities are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

Listed Facilities

Facility Name And Location	Estimated Distance / Direction/Gradient	Database Listings	Is a REC, CREC, or HREC to the Site
Silverado Steel Fabricating	105 feet / South of Plot 2 / Down-gradient	SANBERN CUPA, HAZNET	Not a REC, discussed below
L/C ATC ATV Rentals 8870 El Mirage Road		HAZNET	

8870 El Mirage Road

Silverado Steel Fabricating and L/C ATC ATV Rentals, located approximately 105 feet to the south of Plot 2 of the site and in a topographic down-gradient position relative to the site is listed in the SANBERN CUPA and HAZNET regulatory database. Based on a review of the listings, this facility was permitted with the San Bernardino County as a hazardous materials handler for 0 to 10 employees in 2007. The permit is listed as inactive. This facility was permitted as a hazardous waste generator. The type of waste streams generated were not reported. Based on the facility's down-gradient position relative to the site and the facility's regulatory status, the Silverado Steel Fabricating and L/C ATC ATV Rentals facility does not represent a REC to the site.

In addition, the regulatory database identified 8801 El Mirage Road (Aerochem, Inc. and Allied Chemical) and 8981 El Mirage Road (Level 3 Communications LLC., Integra Telecom Adelanto, and Broadwing Communications adjoining to the site. Based on a review of historical information and the regulatory database, the 8801 El Mirage Road facility is located approximately 5.6 miles to the west of Plot 1 of the site and 8981 El Mirage facility is located 0.5 mile to the east of Plot 2 of the site.

The remaining facilities listed in the database report do not appear to represent RECs to the site at this time based upon regulatory status, apparent topographic gradient, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed seven facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
San Bernardino County Department of Environmental Health (SBCDEH) / Online form sent by e-mail EHS.CustomerService@dph.sbcounty.gov	On November 21, 2019 Terracon received a response from Jeanne Hammer, Office Assistant III with the SBCDEH stating records were not found for the site address.
Department of Toxic Substances Control (DTSC) / by e-mail pubreqact@dtsc.ca.gov	On November 13, 2019 Terracon received a response from Choua Her, Regional Records Coordinator with the DTSC stating records were not found for the site address.
Adelanto City Clerk (ACC) / via portal https://adelanto.nextrequest.com/requests/new	At the issuance of this report, a response has not been received.
Mojave Desert Air Pollution Control District (MDAPCD) / Online form by e-mail Jjochim@mdaqmd.ca.gov	At the issuance of this report, a response has not been received.
Lahontan Regional Water Quality Control Board (LRWQCB) / by e-mail lahontan@waterboards.ca.gov	At the issuance of this report, a response has not been received. In addition, Terracon researched on-line at the State Water Resource Control Board – GeoTracker database, and records were not identified for the site.

4.3 Local Area Knowledge

Based on a review of the California Department of Conservation Division of Oil, Gas & Geothermal Well Finder website (https://maps.conservation.ca.gov/doggr/wellfinder), there are no oil or gas production wells located at the site or surrounding areas.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Jennifer S. Van
Reconnaissance Date	November 26, 2019
Weather Conditions	Sunny 66˚F
Site Contact/Title	N/A

5.2 Overview of Current Site Occupants

The site consists two contiguous plots of land identified here in as Plot 1 and Plot 2 separated by undeveloped land. Plot 1 consists of approximately 329.13 acres of undeveloped land with a water well on the eastern portion and Plot 2 consists of approximately 41.45 acres of undeveloped land. Plot 1 is located approximately 40 feet northwest of the intersection of El Mirage Road and Richardson Road and Plot 2 is located approximately 1,340 feet northwest of El Mirage Road and Richardson Road in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Numbers (APNs): 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 and 045811325). At the time of reconnaissance, the site was observed to be unoccupied.

5.3 Overview of Current Site Operations

The site consists of undeveloped land and was unoccupied at the time of the site reconnaissance.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an “X”) are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	

Category	Item or Feature	Observed or Identified
	Paint booths	
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS or SDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	X
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	X
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
	Surface water bodies	

Category	Item or Feature	Observed or Identified
Other Notable Site Features	Quarries or pits	
	Wastewater lagoons	
	Wells	X

Underground Chemical or Waste Storage, Drainage or Collection System

Pipeline Markers

Petroleum pipeline markers were observed along the southern boundary of Plot 1 and 2 parallel to El Mirage Road. Leakage, spills or releases from the pipeline were not observed at the time of the site reconnaissance. These pipelines were not identified in the regulatory database; however, are discussed in Section 4.3. Based on site observation, the pipeline markers do not represent a REC to the site.

Releases or Potential Releases

Trash, debris and/or other waste materials

Rubber tires and household trash were observed scattered throughout the eastern boundary of Plot 1 as well as the southern boundary of Plot 1 and the eastern boundary of Plot 2 amounting to approximately 10 cubic yards. Leakage, spills or releases from these materials were not observed. Based on site observations the rubber tires and household trash do not constitute a REC on the site.

Construction/demolition debris and/or dumped fill dirt

Concrete debris was located on the southeastern corner of Plot 1 amounting to approximately 5 cubic yards. Leakage, spills or releases from these materials were not observed. Based on site observations of the concrete debris it does not constitute a REC on the site.

Wells

An apparent water well was identified to the east of the central portion of Plot 1 of the site located along Richardson Road. The well appears to be associated with water utility lines along Richardson Road. The well was covered with a metal plate. Staining and/or releases were not observed in the vicinity and the well did not have a pump. Based on site observations, the water well does not constitute a REC on the site.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	The property to the north consisted of undeveloped land.
East	The property to the east consisted of Richardson Road (unimproved road) followed by undeveloped land.
South	The property to the adjoining south of Plot 1 and Plot 2 of the site consisted of El Mirage Road (asphalt-paved road) followed by a commercial building (8870 El Mirage Road) located to the southeast of Plot 2 and undeveloped land and unimproved roads south of Plot 1.
West	The property to the adjoining west of Plot 1 consists of Norco Shadow Mountain Ranch (8402 El Mirage Road) and undeveloped land.
Central Adjoining	The property to the central adjoining of Plot 1 and 2 of the site consisted of undeveloped land.

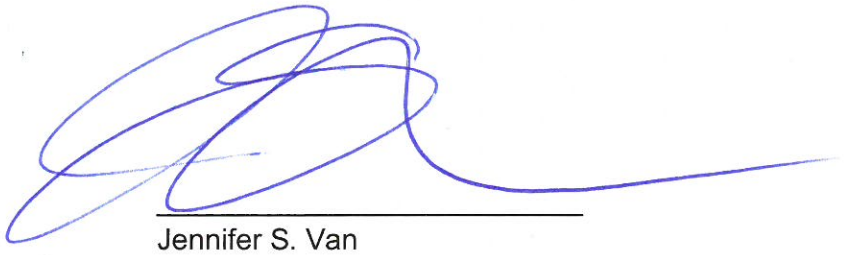
RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. sampling, lead in based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

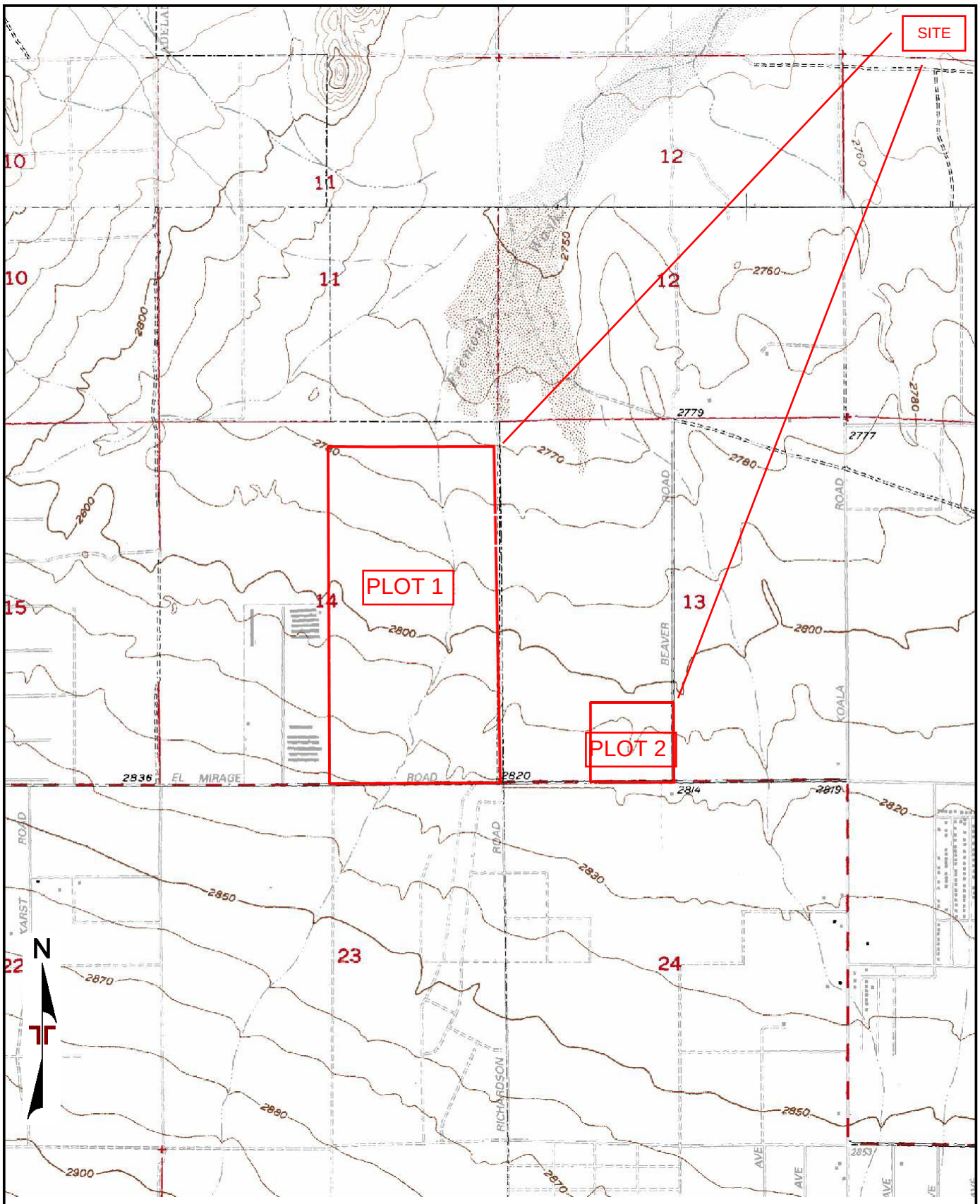
8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



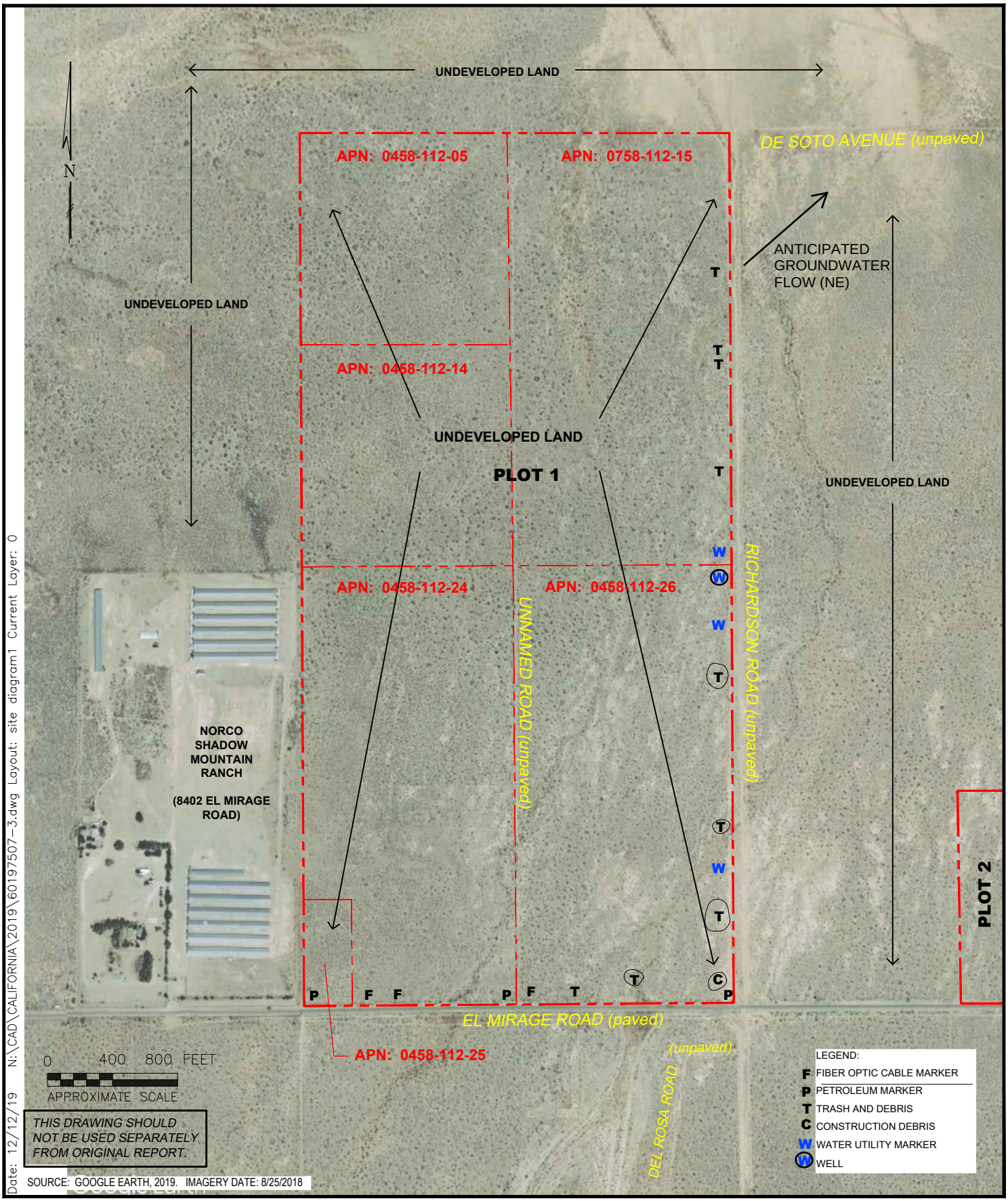
Jennifer S. Van
Environmental Group Manager

APPENDIX A
EXHIBIT 1 - TOPOGRAPHIC MAP
EXHIBIT 2 - SITE DIAGRAM: PLOT 1
EXHIBIT 2A - SITE DIAGRAM: PLOT 2



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: VICTORVILLE NW, CA (1/1/1993) and ADELANTO, CA (1/1/1993).

Project Manager: JSV	Project No. 60197507	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	EXHIBIT 1
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			



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Project Mngr:	JSV
Drawn By:	CDD
Checked By:	JSV
Approved By:	IRN

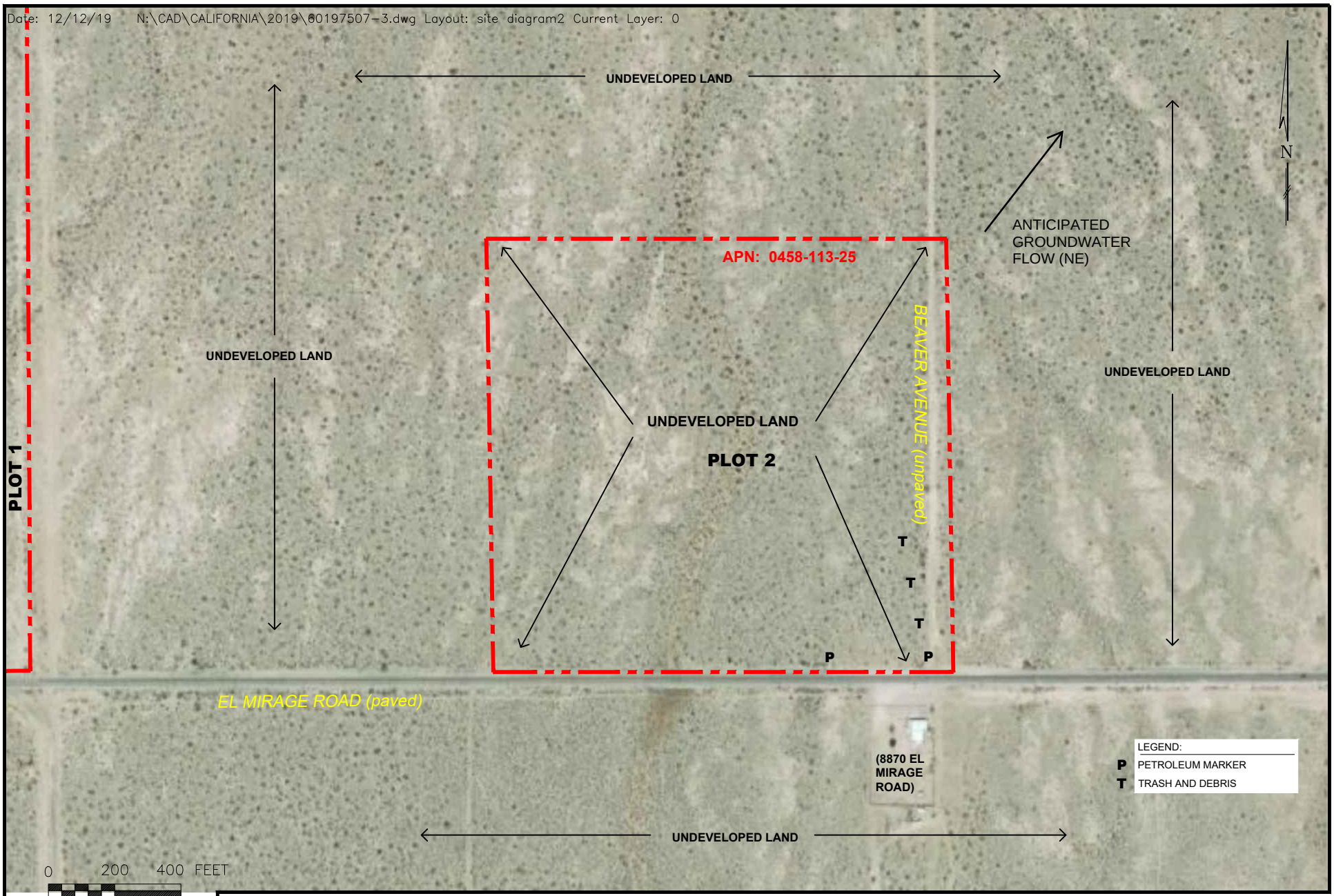
Project No.	60197507.1
Scale:	AS SHOWN
Date:	12/12/19

Terracon
Consulting Engineers and Scientists
1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780
PH. (949) 261-0051 FAX. (949) 261-6110

SITE DIAGRAM - PLOT 1

BALDY MESA - PHASE II - SITE 3, PLOT 1
~40 FEET NORTHWEST OF EL MIRAGE ROAD AND RICHARDSON ROAD
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

EXHIBIT 2



THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

SOURCE: GOOGLE EARTH, 2019.
IMAGERY DATE: 8/25/2018

Project Mngr:	JSV
Drawn By:	CDD
Checked By:	JSV
Approved By:	IRN

Project No.	60197507.3
Scale:	AS SHOWN
Date:	12/12/19

Terracon
Consulting Engineers and Scientists
1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780
PH. (949) 261-0051 FAX. (949) 261-6110

SITE DIAGRAM - PLOT 2

BALDY MESA PHASE II - SITE 3, PLOT 2
~1,340 FEET NORTHWEST OF EL MIRAGE ROAD AND RICHARDSON ROAD
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

EXHIBIT 2A

APPENDIX B
SITE PHOTOGRAPHS



Photo #1 View of the northeastern portion of Plot 1 of the site looking south.



Photo #2 View of the southeastern portion of Plot 1 of the site looking north.



Photo #3 View of southwestern portion of Plot 1 of the site looking north.



Photo #4 View of the central portion of the Plot 2 of the site looking south.



Photo #5 View of northeastern portion of the Plot 2 of the site looking west.



Photo #6 View of the southeastern portion of the Plot 2 of the site looking west.



Photo #7 View of trash and debris located on northeast boundary of Plot 1 of the site.



Photo #8 Typical view of water line marker running parallel to the eastern and southern boundary of Plot 1 of the site.



Photo #9 View of water well located on in the central-eastern portion of Plot 1 of the site.



Photo #10 View of concrete debris located on south east corner of Plot 1 of the site.



Photo #11 Typical view of petroleum pipeline located along southern boundary of Plot 1 of the site parallel to El Mirage Road.



Photo #12 Typical view of fiber optic cable marker located along the southern boundary of Plot 1 f the site parallel to El Mirage Road.



Photo #13 View of trash and debris located on the northwestern corner of Plot 1 of the site.



Photo #14 View of adjoining property to the north from the northern boundary of Plot 1 of the site.



Photo #15 View of essential adjoining property from southeastern boundary of the Plot 1 of the site.



Photo #16 View of adjoining property to the west from the southwest corner of Plot 1 of the site.



Photo #17 View of adjoining property to the south from the central portion of the southern boundary of Plot 1 of the site.



Photo #18 View of the adjoining property to the east from the southeastern corner of Plot 2 of the site.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Client/User Required Questionnaire

Terracon

Person Completing Questionnaire	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Site Name	Baldy Mesa Solar - Phase II (5 sites)
Site Address	City of Adelanto, CA
Point of Contact for Access	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Access Restrictions or Special Site Requirements?	X No ___ Yes (If yes, please explain)
Confidentiality Requirements?	___ No X Yes (If yes, please explain) outlined in MSA
Current Site Owner	Name: Phone: Company: See Title Reports Email: -
Current Site Operator	Name: Phone: Company: See Title Reports Email: -
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Conditional use permit for development and operation of a photovoltaic solar utility plant.
Anticipated Future Site Use	Photovoltaic Solar Utility
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.

ASTM User Questionnaire

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___ Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___ Yes ___ Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___ Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___ Yes (If yes, explain below)

Comments or explanations:

None

Please return this form with the signed authorization to proceed. Proposal No. P60197507

ENVIRONMENTAL RISK INFORMATION SERVICES

HISTORICAL AERIALS

Project Property:	Site 3 Site 3 Adelanto CA
Project No:	Site 3
Requested By:	Terracon
Order No:	20191113050
Date Completed:	November 19, 2019

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Date	Source	Source scale	Comment
2018	NAIP	1:12000	
2012	NAIP	1:12000	
2010	NAIP	1:12000	
2005	NAIP	1:12000	
1995	USGS	1:12000	
1985	NHAP	1:12000	
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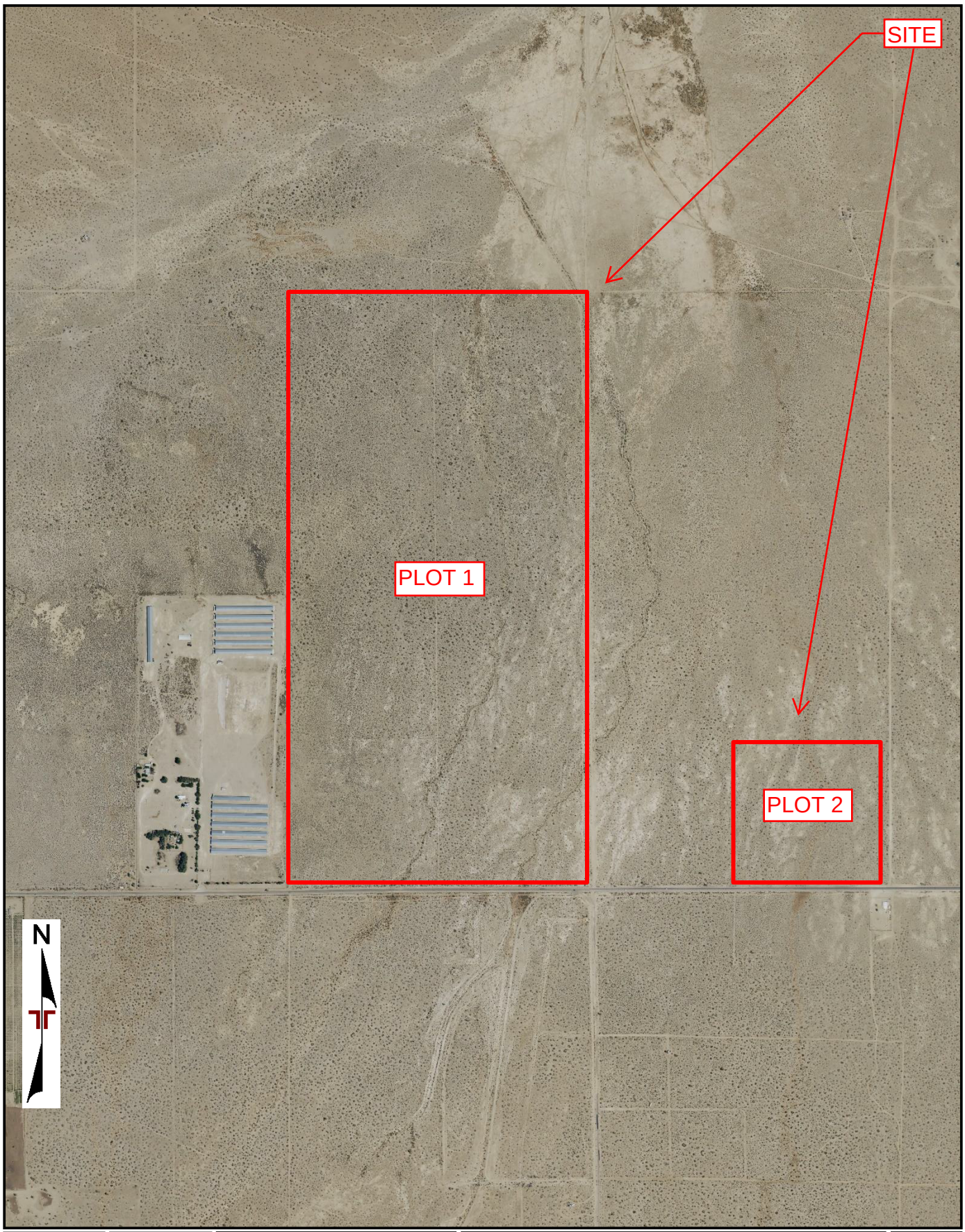
1954	AMS	1:12000	
1948	USAF	1:12000	



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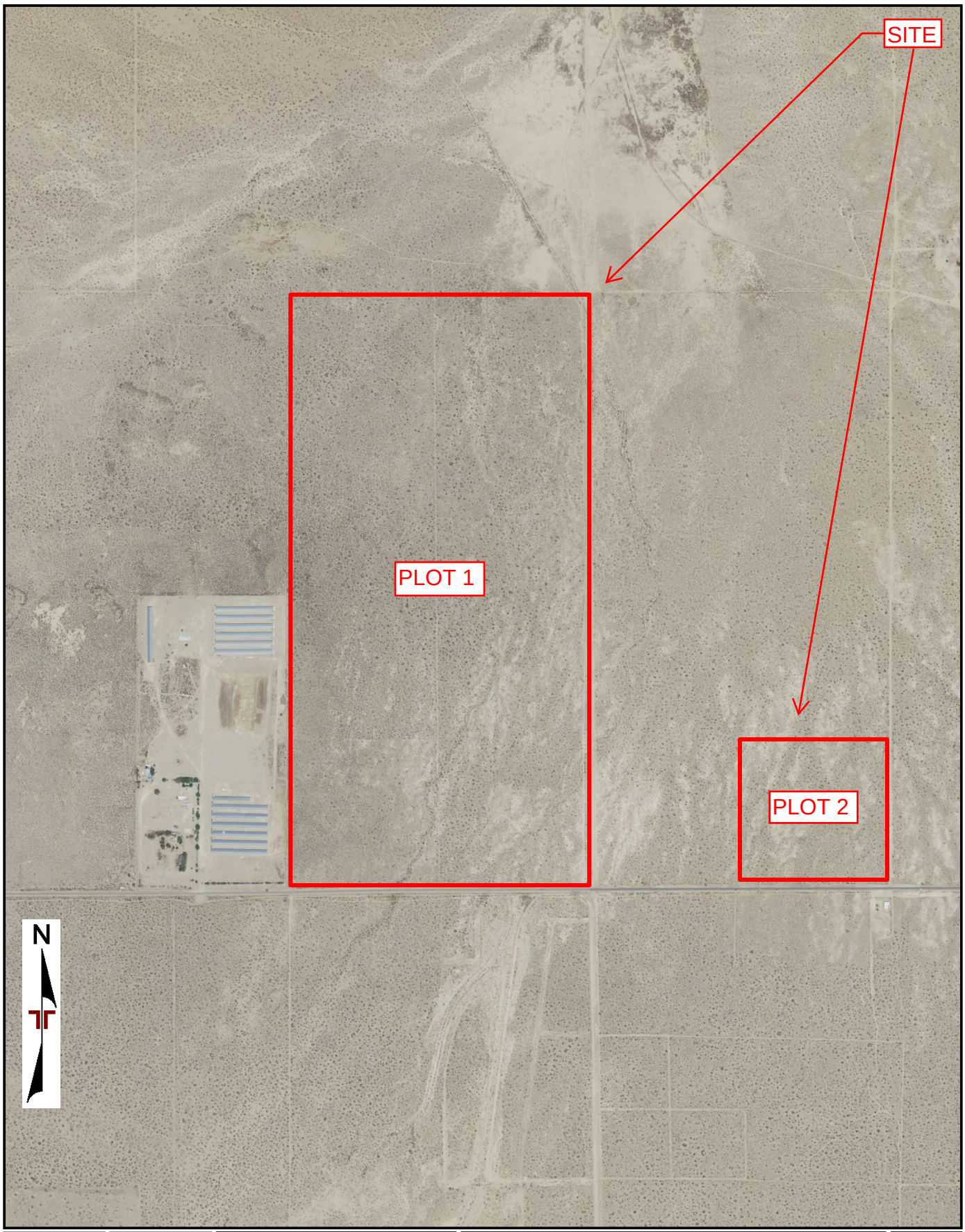
Checked by: JSV	File Name: 20191113050	Tustin, California 92780	APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA

Appendix

C



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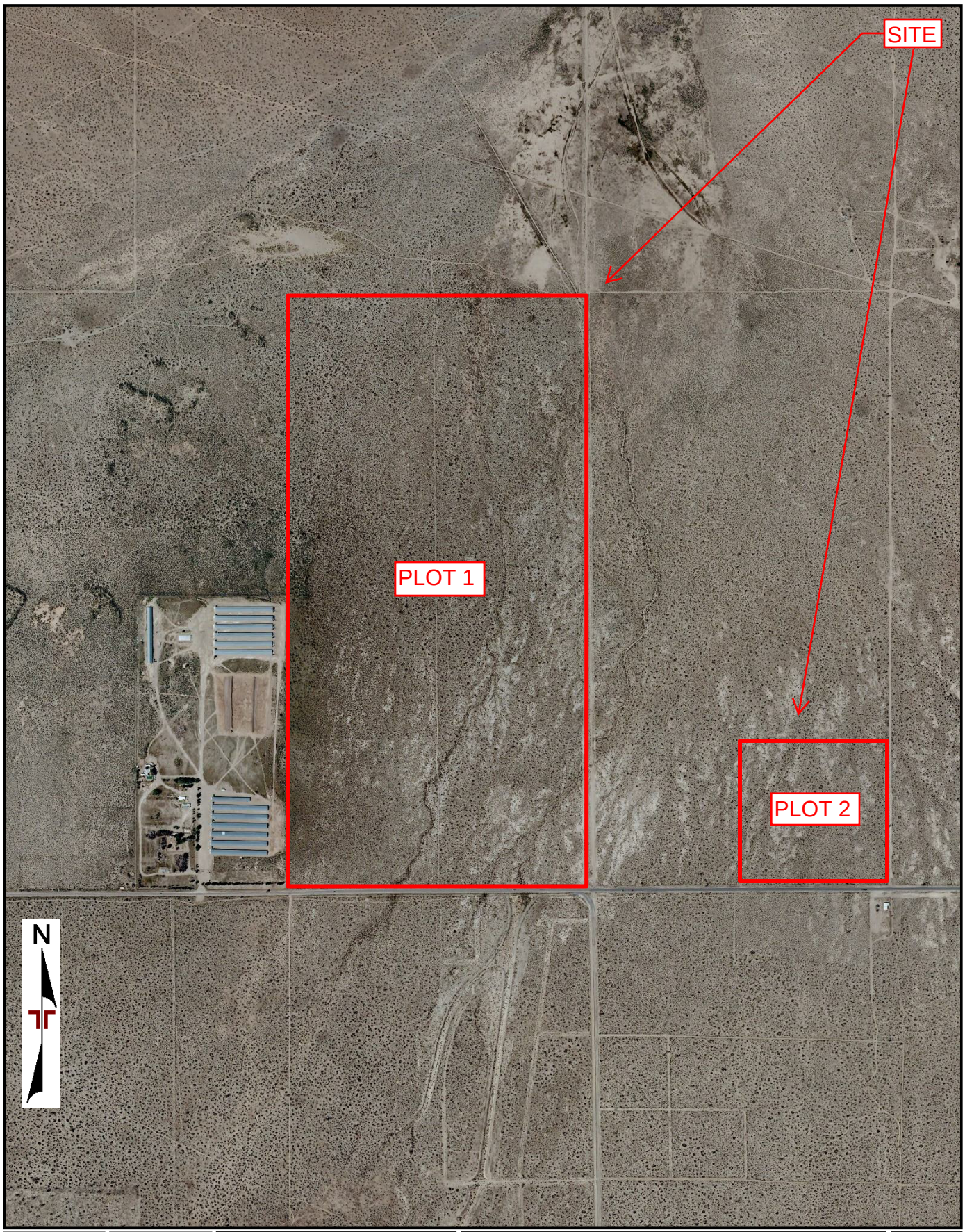
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA

Appendix C



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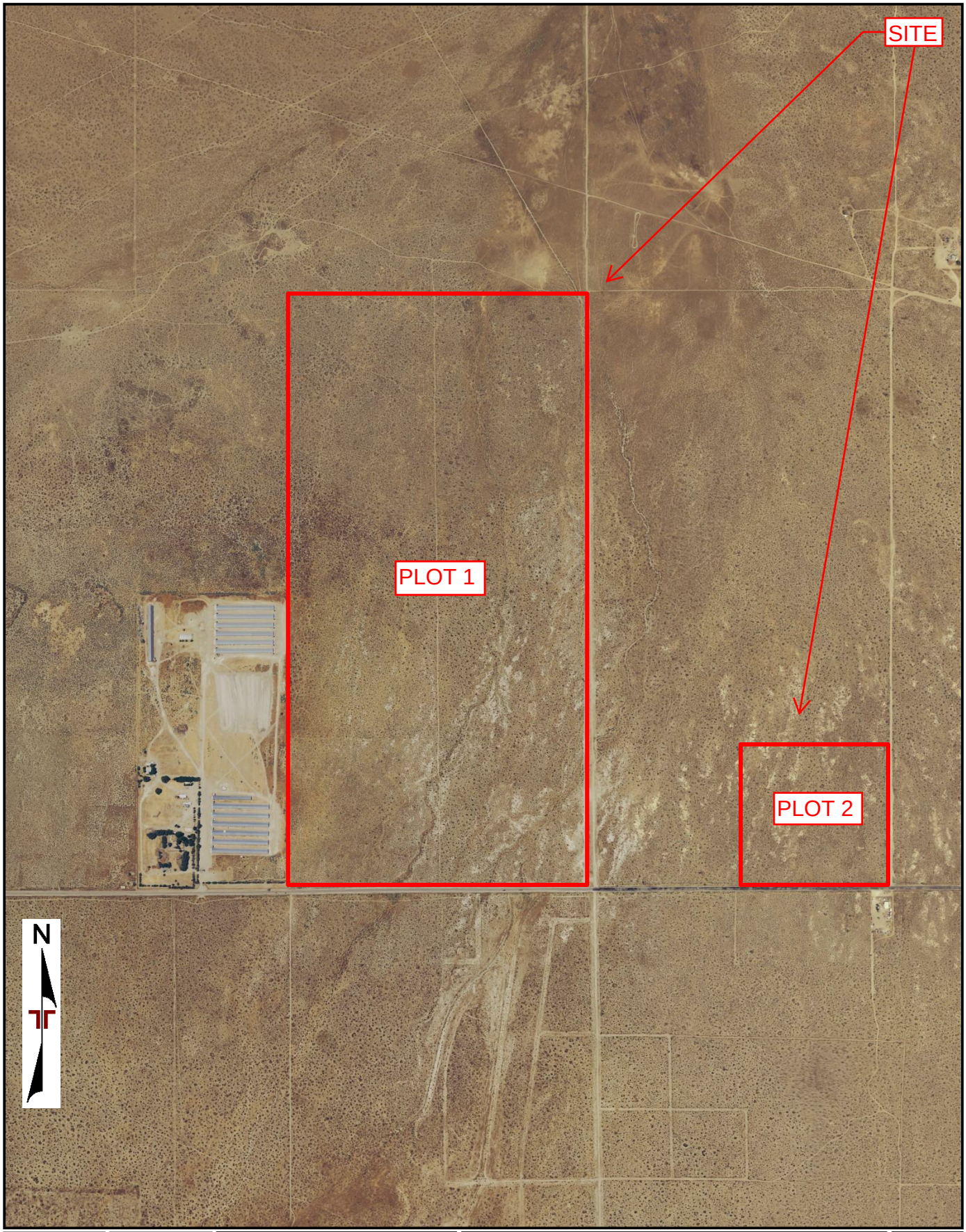
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA	



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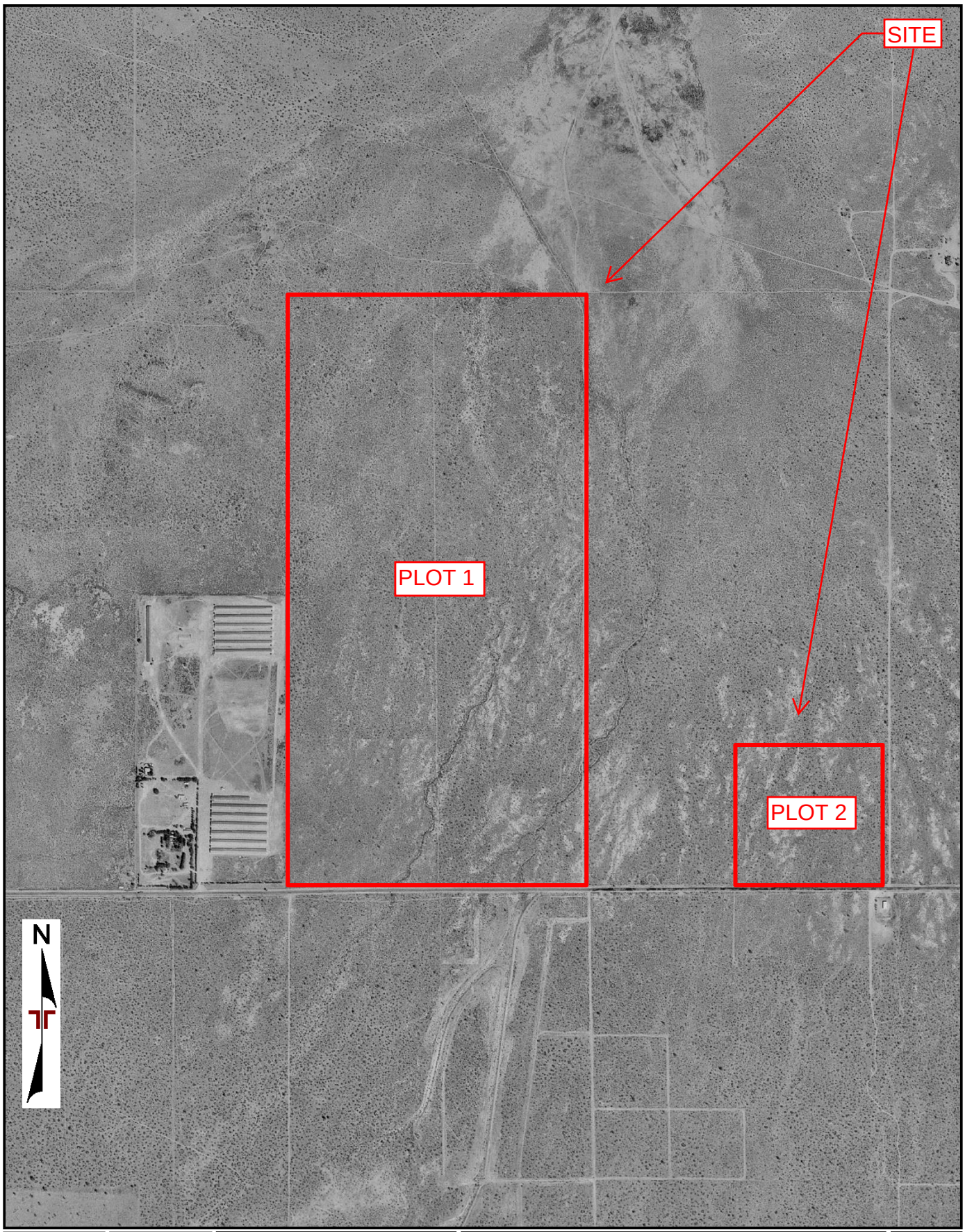
Checked by: JSV	File Name: 20191113050		
Approved by: ISN	Date: 2019-11-19		Appendix C



Project Manager: JSV	Project No. Site 3	Terracon	AERIAL PHOTO (1995-USGS)
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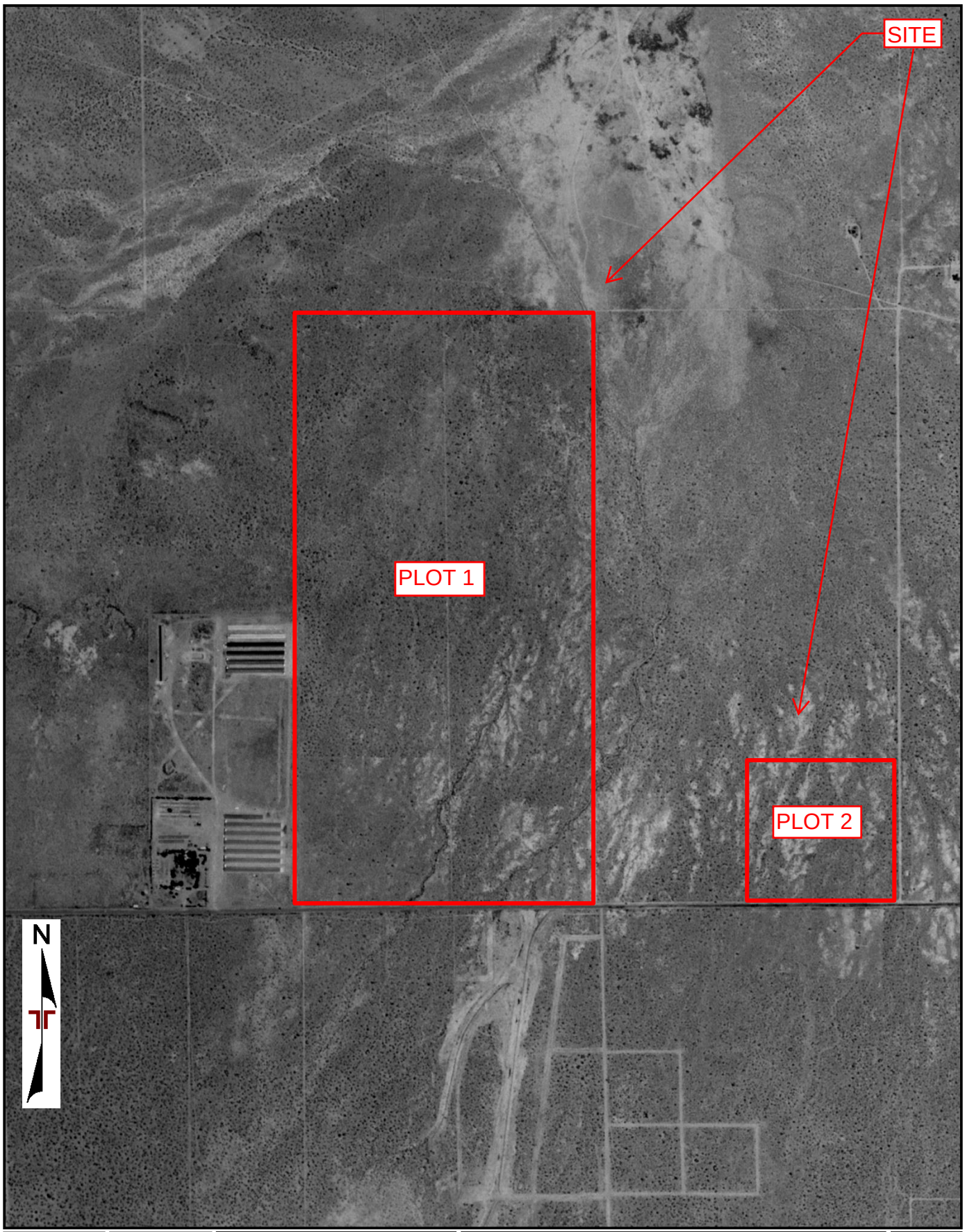
Checked by: JSV	File Name: 20191113050	Tustin, California 92780	APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA

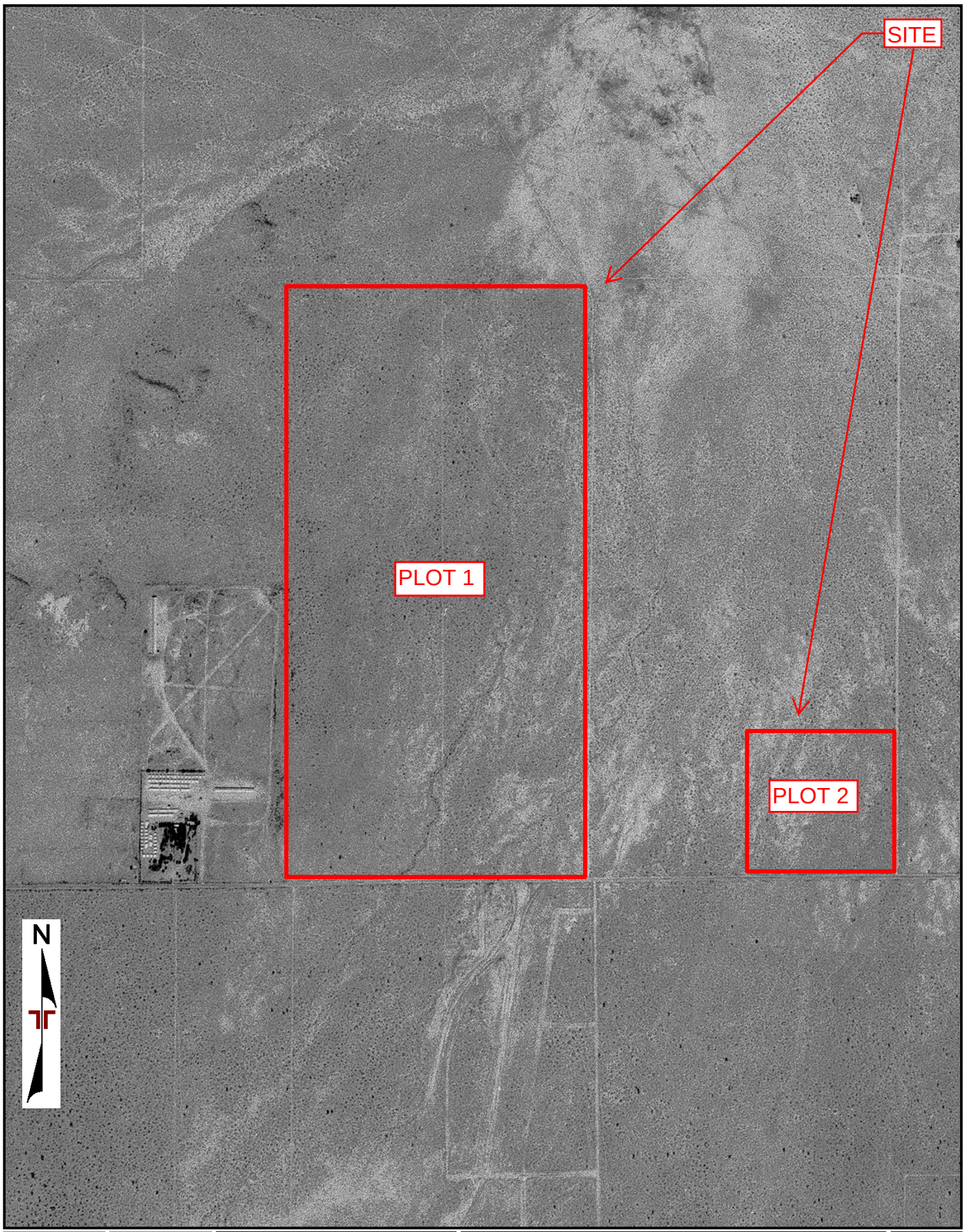
Appendix C



Project Manager: JSV	Project No. Site 3	Terracon	AERIAL PHOTO (1985-NHAP)
Drawn by: MH	Scale: 1:12000	1421 Edinger Avenue Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II – SITE 3 APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA
Checked by: JSV	File Name: 20191113050		
Approved by: ISN	Date: 2019-11-19		

Appendix

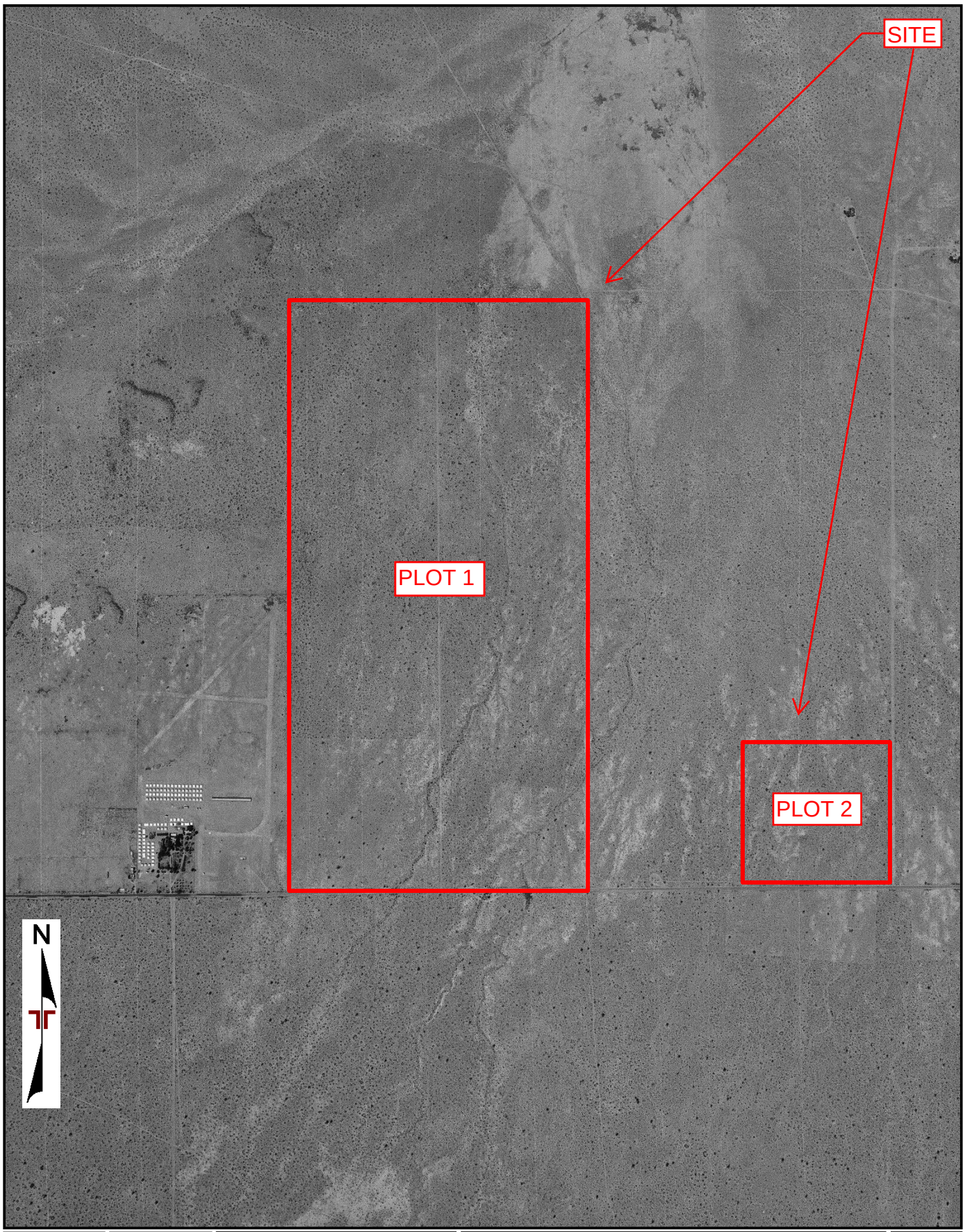
C



Project Manager: JSV	Project No. Site 3	Terracon	AERIAL PHOTO (1978-USGS)
Drawn by: MH	Scale: 1:12000	1421 Edinger Avenue Suite C	BALDY MESA SOLAR PHASE II – SITE 3
Checked by: JSV	File Name: 20191113050	Tustin, California 92780	APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA

Appendix

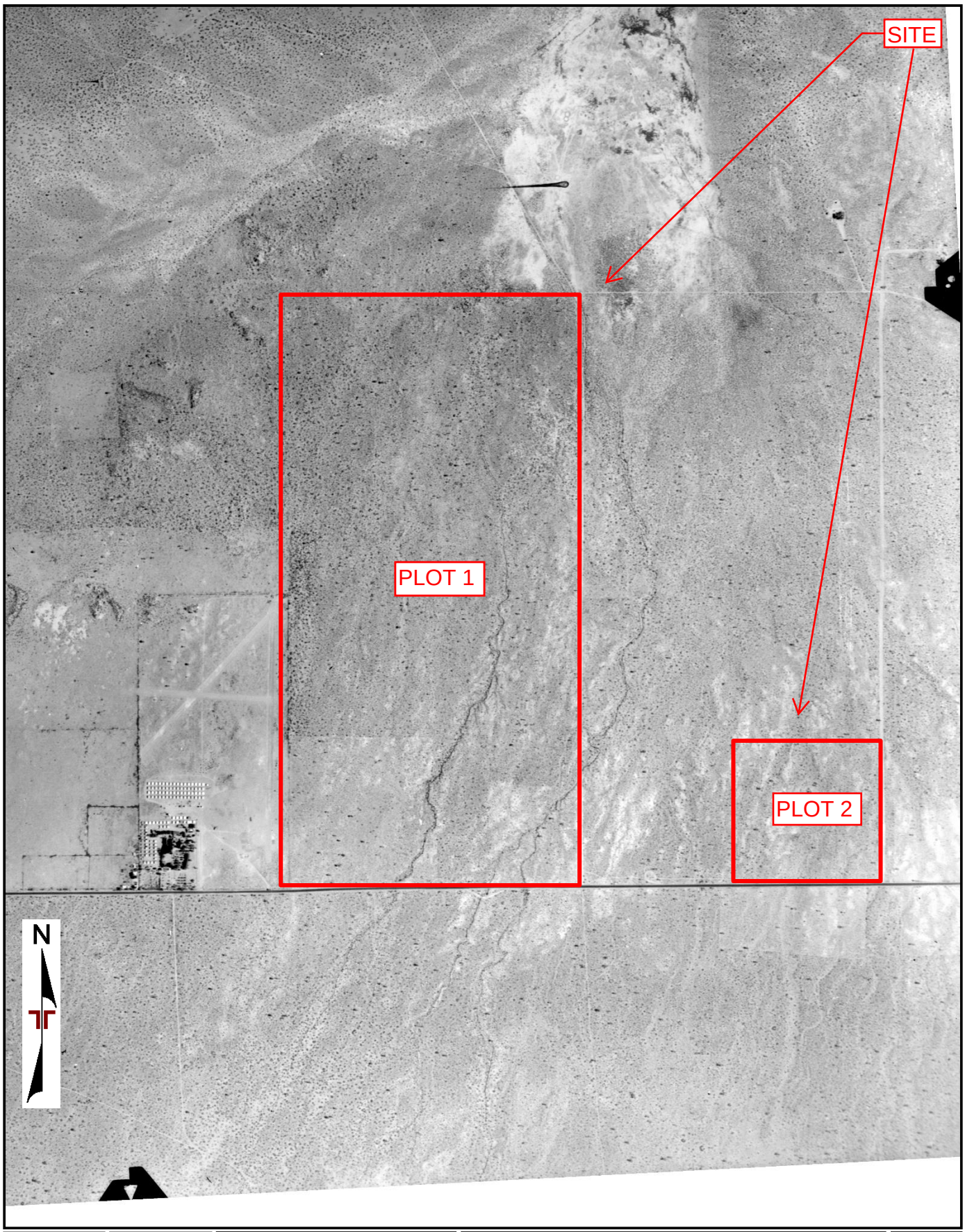
C



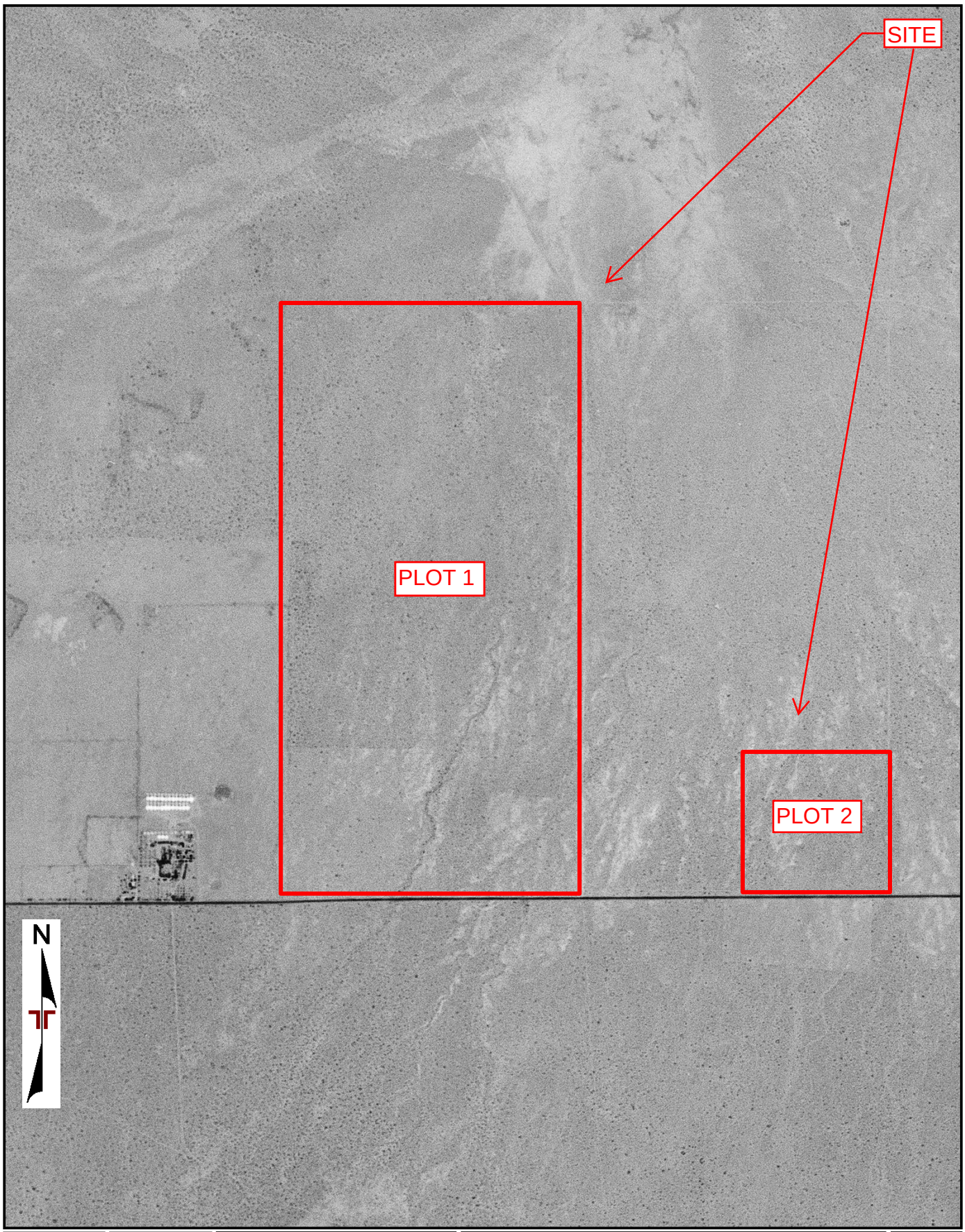
Project Manager: JSV	Project No. Site 3	Terracon	AERIAL PHOTO (1968-USGS)
Drawn by: MH	Scale: 1:12000	1421 Edinger Avenue Suite C	BALDY MESA SOLAR PHASE II – SITE 3
Checked by: JSV	File Name: 20191113050	Tustin, California 92780	APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA

Appendix

C



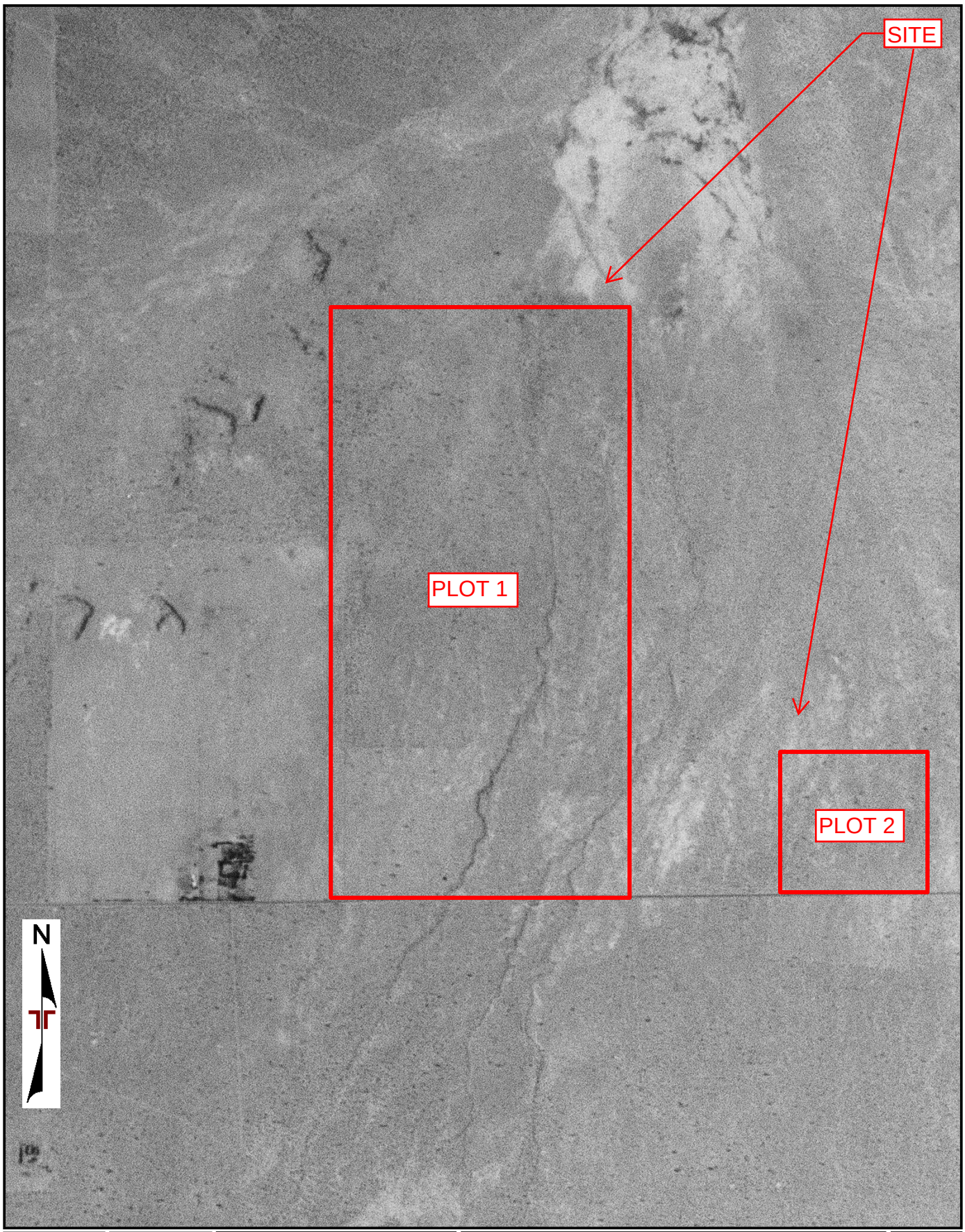
Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 3 Scale: 1:12000 File Name: 20191113050 Date: 2019-11-19	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	AERIAL PHOTO (1959-ASCS) BALDY MESA SOLAR PHASE II – SITE 3 APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	Appendix C



Project Manager: JSV	Project No. Site 3	Terracon	AERIAL PHOTO (1954-AMS)
Drawn by: MH	Scale: 1:12000	1421 Edinger Avenue Suite C	BALDY MESA SOLAR PHASE II – SITE 3
Checked by: JSV	File Name: 20191113050	Tustin, California 92780	APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO, CALIFORINA

Appendix

C



Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 3 Scale: 1:12000 File Name: 20191113050 Date: 2019-11-19	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	AERIAL PHOTO (1948-USAF) BALDY MESA SOLAR PHASE II – SITE 3 APNS:045811205, 045811214, 045811215, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	Appendix C

ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

Project Property:	Site 3 Site 3 Adelanto CA
Project No:	Site 3
Requested By:	Terracon
Order No:	20191113050
Date Completed:	November 14, 2019

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We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1993	7.5
1980	7.5
1968	7.5
1956	7.5
1956	15

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
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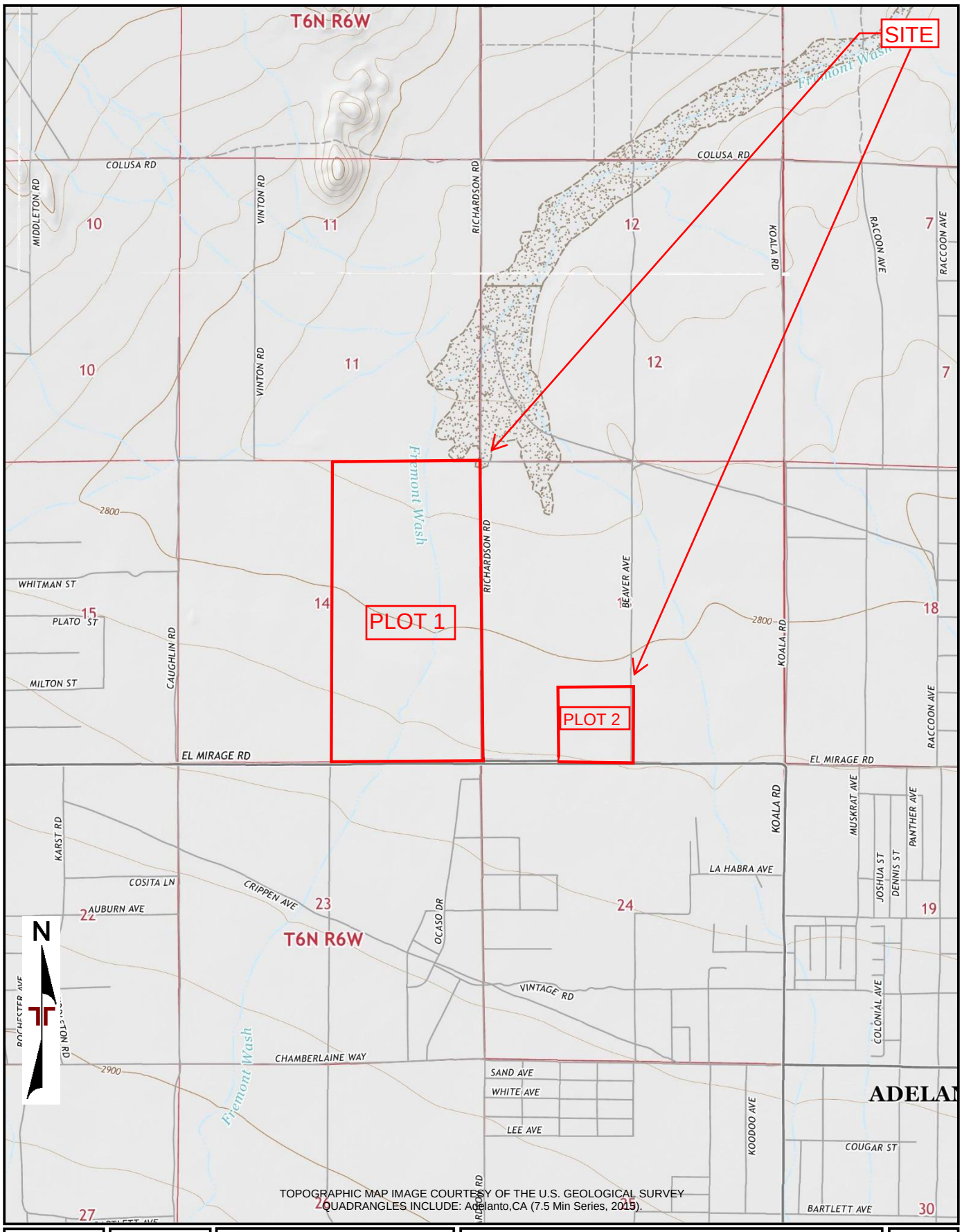
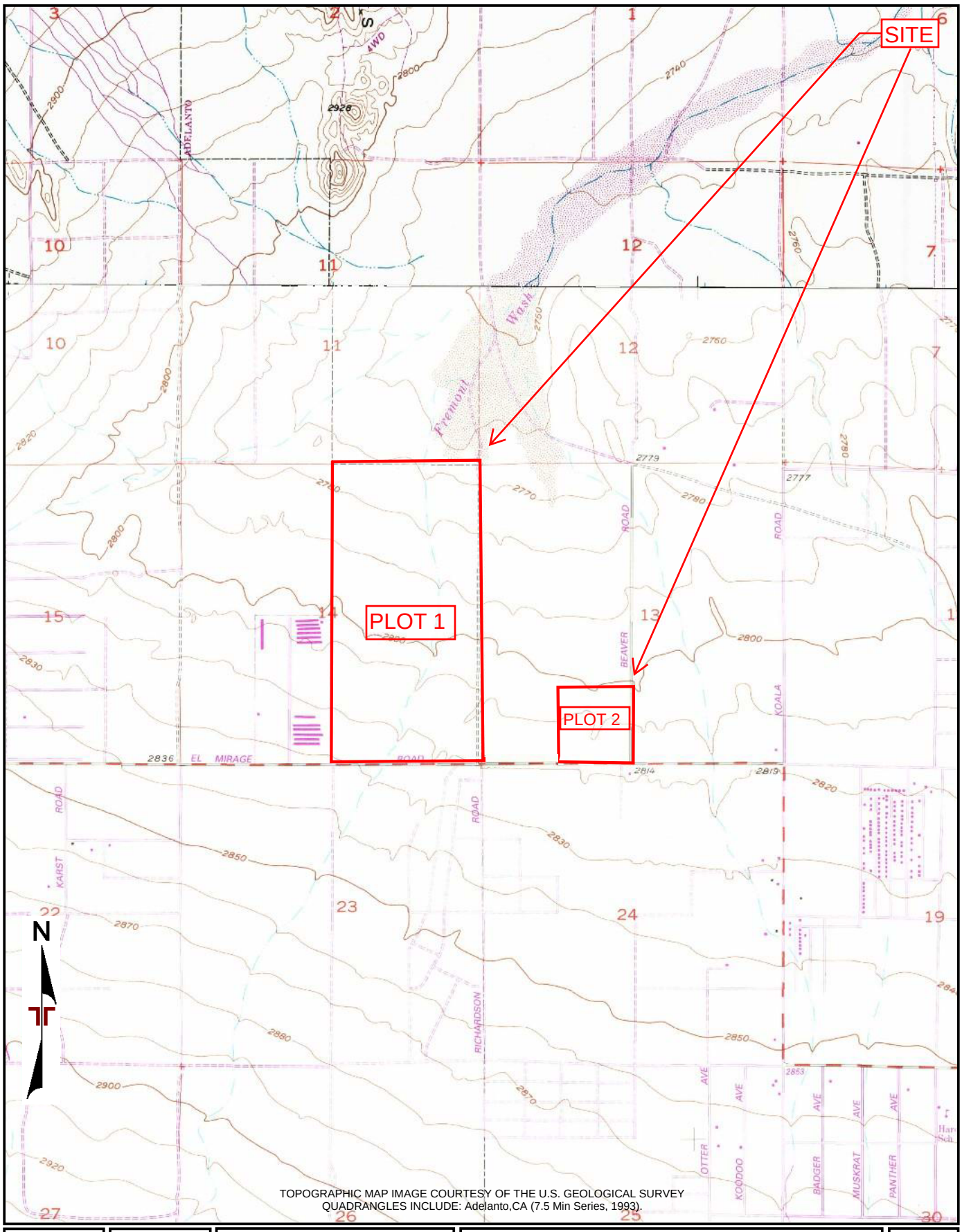


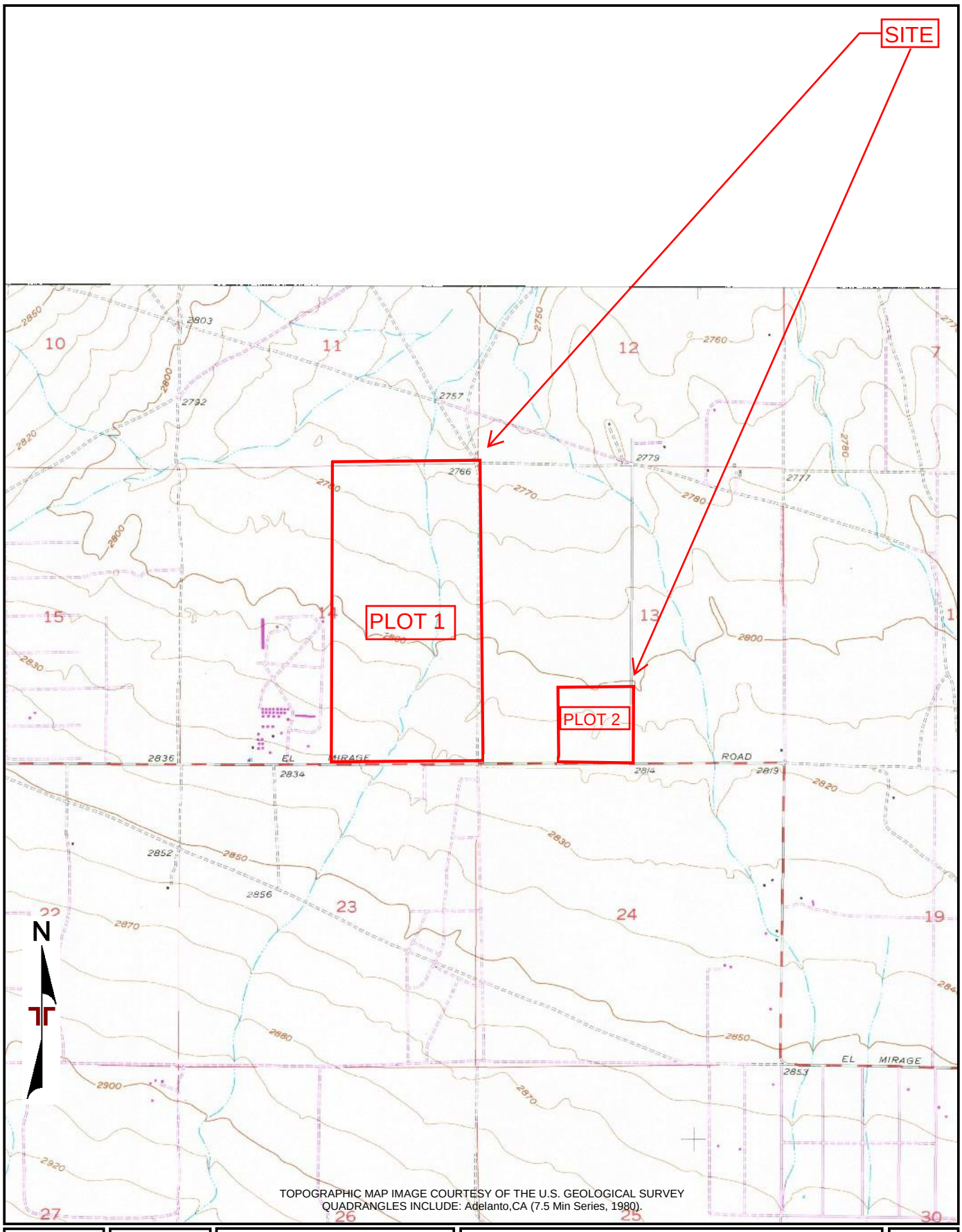
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 2015).

Project Manager: JSV	Project No. Site 3	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP (2015)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	C
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			



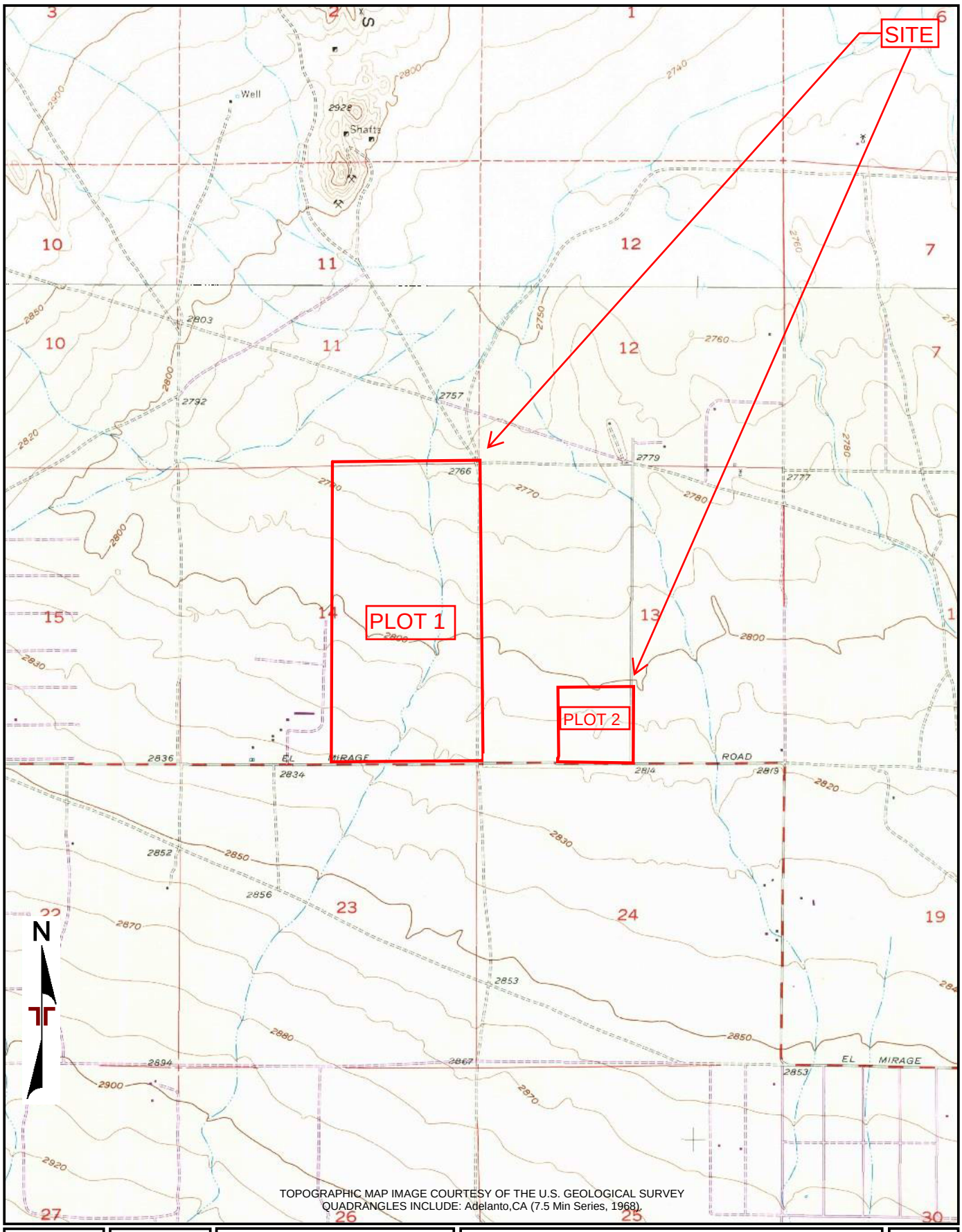
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1993).

Project Manager: JSV	Project No. Site 3	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP (1993) BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	Appendix C
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			



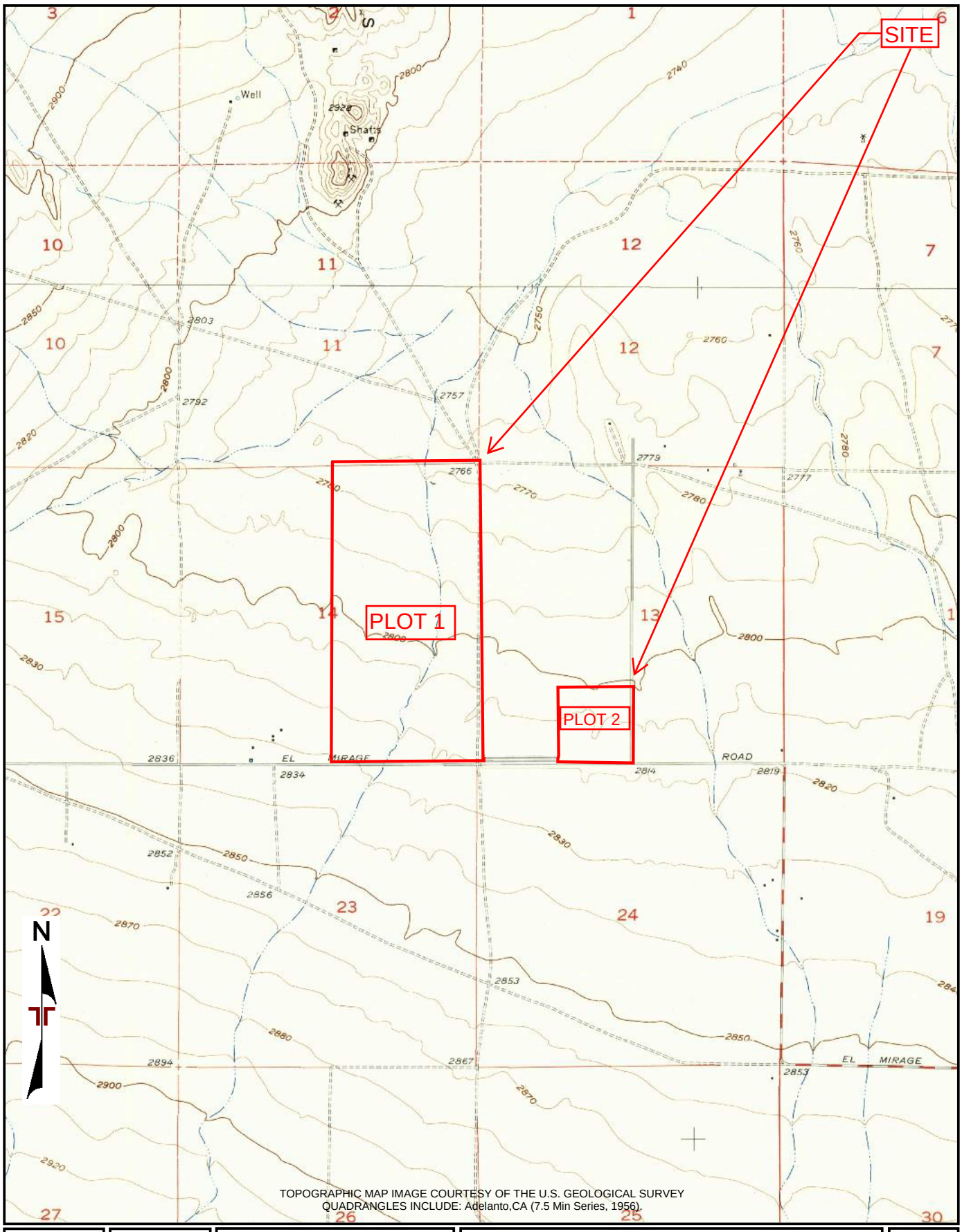
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1980).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 3 Scale: 1"=2,000' File Name: N/A Date: NOV 2019	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP (1980) BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	Appendix C



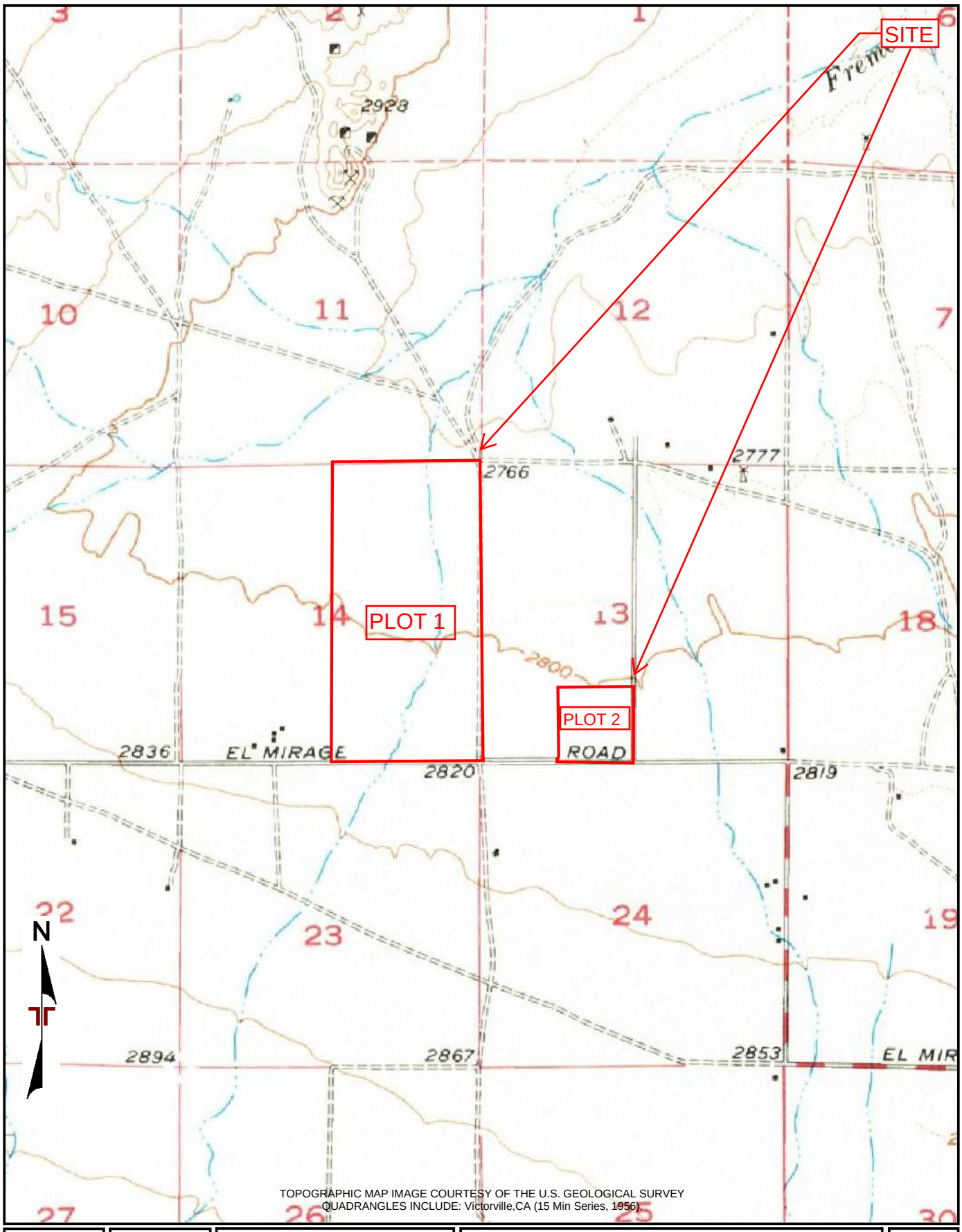
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1968).

Project Manager: JSV	Project No. Site 3	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP (1968)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	C
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1956).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. Site 3 Scale: 1"=2,000' File Name: N/A Date: NOV 2019	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP (1956) BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	Appendix C



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville,CA (15 Min Series, 1956).

Project Manager: JSV	Project No. Site 3	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	BALDY MESA SOLAR PHASE II - SITE 3 APNS: 045811205, 045811214, 045811215, 045811224, 045811225, 045811226 AND 045811325 ADELANTO, SAN BERNARDINO, CALIFORINA	Appendix C
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Site 3 Site 3 Adelanto CA
Project No:	Site 3
Requested By:	Terracon
Order No:	20191113050
Date Completed:	November 13, 2019

Please note that no information was found for your site or adjacent properties.

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ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Site 3* *Site 3* *Adelanto, CA*
Project No:	*Site 3*
Requested By:	*Terracon*
Order No:	*20191113050*
Date Completed:	*December 2, 2019*

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December 2, 2019
RE: CITY DIRECTORY RESEARCH
Site 3
Site 3 Adelanto, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

8402-9401 of El Mirage Road
ALL of Beaver Ave
ALL of Richardson Road

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2006	DIGITAL BUSINESS DIRECTORY	
2002	DIGITAL BUSINESS DIRECTORY	
1998	DIGITAL BUSINESS DIRECTORY	
1988	HAINES	
1971	HAINES	

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

BEAVER AVE

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

RICHARDSON ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

BEAVER AVE

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

RICHARDSON ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

BEAVER AVE

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

RICHARDSON ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

BEAVER AVE

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

RICHARDSON ROAD

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

BEAVER AVE

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

8801 **AEROCHEM INC**...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

RICHARDSON ROAD

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

BEAVER AVE

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

8801 **AEROCHEM INC**...*Building Maintenance Se*

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

RICHARDSON ROAD

NO LISTING FOUND FOR THIS YEAR...

1988
SOURCE: HAINES

BEAVER AVE

STREET NOT LISTED

1988
SOURCE: HAINES

EL MIRAGE ROAD

. **AEROCHEM INC**
. **OWEN M**
. **SLATER FRANK**
. **STONE FRED REALTY**
. **WOODCREST RANCH**
5225 **BERRY ROBLEY H**
8801 **AEROCHEM INC**
8870 **WARREN COY L**

1988
SOURCE: HAINES

RICHARDSON ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

BEAVER AVE

STREET NOT LISTED

1971
SOURCE: HAINES

EL MIRAGE ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

RICHARDSON ROAD

STREET NOT LISTED

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Site 3* *Site 3* *Adelanto CA*
Project No:	
Report Type:	*Database Report*
Order No:	*20191113050*
Requested by:	*Terracon Consultants, Inc.*
Date Completed:	*November 14, 2019*

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Executive Summary

Property Information:

Project Property:		*Site 3* *Site 3 Adelanto CA*
Project No:		
Coordinates:		
	Latitude:	*34.608382*
	Longitude:	*-117.475062*
	UTM Northing:	*3,829,718.13*
	UTM Easting:	*456,444.15*
	UTM Zone:	*UTM Zone 11S*
Elevation:		*2,799 FT*

Order Information:

Order No:	*20191113050*
Date Requested:	*November 13, 2019*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials Photographs*
City Directory Search	*CD - 4 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*
terraDOCS Report	*terraDOCS (Terracon)*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	0	-	-	0
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	1	0	0	-	1
DELISTED LST	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	1	0	-	-	1
AST	Y	.25	0	1	0	-	-	1
DELISTED TNK	Y	.25	0	0	0	-	-	0
CERS TANK	Y	.25	0	1	0	-	-	1
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	1	0	-	-	1
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
SANBERN CUPA	Y	.25	0	2	0	-	-	2
Additional Environmental Records								
Federal								
PFAS NPL	Y	.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	4	-	-	-	4
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
PFAS	Y	.5	0	0	0	0	-	0
PFAS GW	Y	.5	0	0	0	0	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	4	-	-	-	4
HIST CHMIRS	Y	PO	0	2	-	-	-	2
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	0	-	-	-	0
DELISTED HAZ	Y	.5	0	0	0	0	-	0
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	3	0	-	-	3
CDL	Y	.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental databases were selected to be included in the search.***							
Total:			*0*	*20*	*0*	*0*	*0*	*20*

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	SANBERN CUPA	SILVERADO STEEL FABRICATING	8870 EL MIRAGE RD ADELANTO CA 92301	SE	0.00 / 9.96	19	19
1	HAZNET	SILVERADO FABRICATING MACHINE COMPANY	8870 EL MIRAGE ADELANTO CA 923019668	SE	0.00 / 9.96	19	19
1	HAZNET	L/C ATC ATV RENTALS	8870 EL MIRAGE ADELANTO CA 000000000	SE	0.00 / 9.96	19	19
2	HIST CHMIRS	ALLIED CHEMICAL	8801 EL MITAGE ROAD ADELANTO CA	S	0.01 / 31.67	25	20
3	LUST	AEROCHEM INC	8801 EL MIRAGE RD ADELANTO CA 92301	S	0.01 / 36.59	25	20
			Global ID | Status | Status Date: T0607100698 | COMPLETED - CASE CLOSED | 1990-05-01 00:00:00				
4	AST	LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE ADELANTO CA 92301	SSE	0.01 / 40.06	23	23
4	CERS TANK	CENTURYLINK - ADELANTO - ADLNCAAO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	23	23
			Site ID: 523916				
4	SANBERN CUPA	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCAAO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	23	25
4	EMISSIONS	LEVEL 3 COMMUNICATIONS - EL MIRAGE RD	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSE	0.01 / 40.06	23	26
4	EMISSIONS	INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSE	0.01 / 40.06	23	27
4	EMISSIONS	BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSE	0.01 / 40.06	23	27

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
4	FINDS/FRS	LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	23	29
4	FINDS/FRS	BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301-0000	SSE	0.01 / 40.06	23	30
4	FINDS/FRS	INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSE	0.01 / 40.06	23	31
4	HAZNET	ELECTRIC LIGHTWAVE INC ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	23	31
4	HAZNET	BROADWING-ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	23	32
5	FINDS/FRS	AEROCHEM INC.	8801 EL MIRAGE RD ADELANTO CA 92301	S	0.01 / 40.17	25	33
5	HIST CHMIRS		AEROCHEM CORP. 8801 EL MIRAGE RD ADELANTO CA	S	0.01 / 40.17	25	33
5	HHSS	AEROCHEM	8801 EL MIRAGE HWY SHEEP CREEK EL MIRAGE CA 92301	S	0.01 / 40.17	25	34
6	HIST TANK	AEROCHEM	8801 EL MIRAGE HWY EL MIRAGE CA	S	0.01 / 59.69	26	34

Executive Summary: Summary by Data Source

Standard

State

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Jul 17, 2019 has found that there are 1 LUST site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
AEROCHEM INC	8801 EL MIRAGE RD ADELANTO CA 92301	S	0.01 / 36.59	3
	Global ID* | *Status* | *Status Date: *T0607100698 | COMPLETED - CASE CLOSED | 1990-05-01 00:00:00*			

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 1 HHSS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
AEROCHEM	8801 EL MIRAGE HWY SHEEP CREEK EL MIRAGE CA 92301	S	0.01 / 40.17	5

AST - Aboveground Storage Tanks

A search of the AST database, dated Aug 31, 2009 has found that there are 1 AST site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE ADELANTO CA 92301	SSE	0.01 / 40.06	4

CERS TANK - California Environmental Reporting System (CERS) Tanks

A search of the CERS TANK database, dated Aug 19, 2019 has found that there are 1 CERS TANK site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CENTURYLINK - ADELANTO - ADLNCAAO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	4
	Site ID: *523916*			

HIST TANK - Historical Hazardous Substance Storage Container Information - Facility Summary

A search of the HIST TANK database, dated May 27, 1988 has found that there are 1 HIST TANK site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
AEROCHEM	8801 EL MIRAGE HWY EL MIRAGE CA	S	0.01 / 59.69	6

County

SANBERN CUPA - San Bernardino County - CUPA List

A search of the SANBERN CUPA database, dated Oct 17, 2019 has found that there are 2 SANBERN CUPA site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SILVERADO STEEL FABRICATING	8870 EL MIRAGE RD ADELANTO CA 92301	SE	0.00 / 9.96	1
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCAAO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	4

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Aug 12, 2019 has found that there are 4 FINDS/FRS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS LLC	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	4
BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301-0000	SSE	0.01 / 40.06	4
INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSE	0.01 / 40.06	4
AEROCHEM INC.	8801 EL MIRAGE RD ADELANTO CA 92301	S	0.01 / 40.17	5

State

HAZNET - Hazardous Waste Manifest Data

A search of the HAZNET database, dated Oct 24, 2016 has found that there are 4 HAZNET site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
L/C ATC ATV RENTALS	8870 EL MIRAGE ADELANTO CA 000000000	SE	0.00 / 9.96	1
SILVERADO FABRICATING MACHINE COMPANY	8870 EL MIRAGE ADELANTO CA 923019668	SE	0.00 / 9.96	1
BROADWING-ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	4
ELECTRIC LIGHTWAVE INC ADELANTO	8981 EL MIRAGE RD ADELANTO CA 92301	SSE	0.01 / 40.06	4

HIST CHMIRS - Historical California Hazardous Material Incident Report System (CHMIRS)

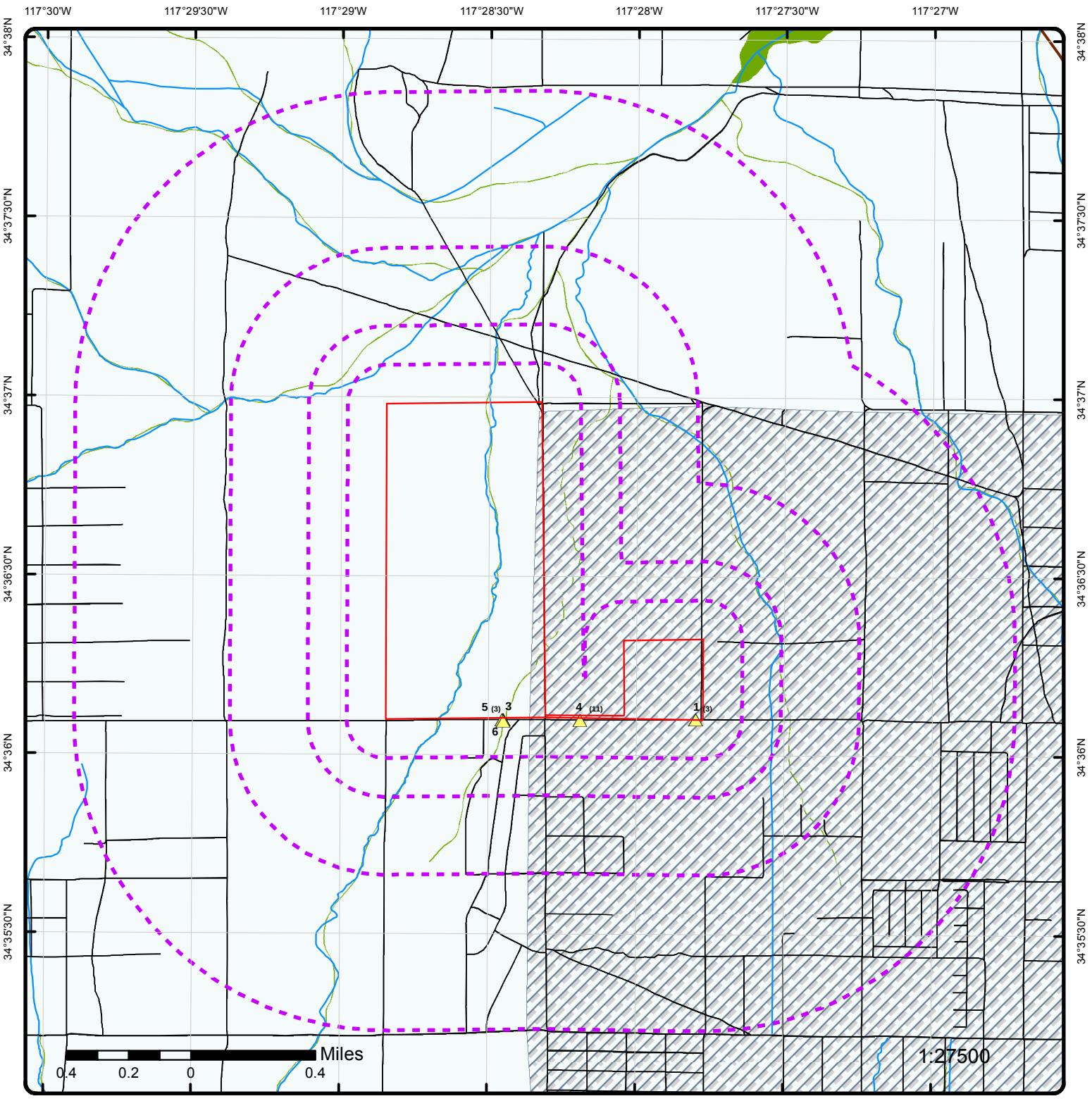
A search of the HIST CHMIRS database, dated Jan 1, 1993 has found that there are 2 HIST CHMIRS site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ALLIED CHEMICAL	8801 EL MITAGE ROAD ADELANTO CA	S	0.01 / 31.67	2
	AEROCHEM CORP. 8801 EL MIRAGE RD ADELANTO CA	S	0.01 / 40.17	5

EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2017 has found that there are 3 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - EL MIRAGE RD	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSE	0.01 / 40.06	4
INTEGRA TELECOM ADELANTO	8981 EL MIRAGE RD. ADELANTO CA 90231	SSE	0.01 / 40.06	4
BROADWING COMMUNICATION ADELCA03	8981 EL MIRAGE ROAD ADELANTO CA 92301	SSE	0.01 / 40.06	4



Map : 1 Mile Radius

Order No: 20191113050

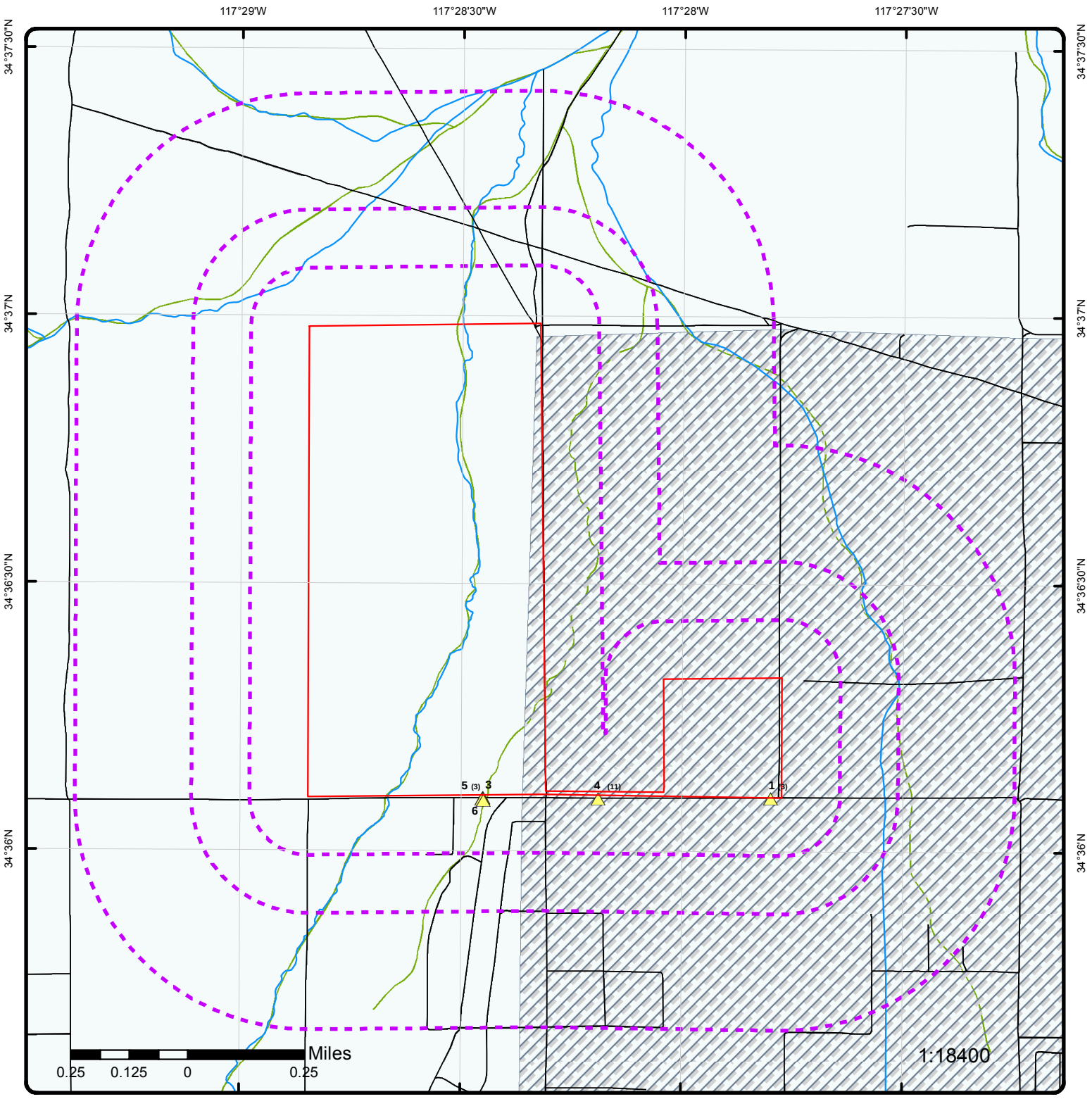
Address: Site 3, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

© ERIS Information Inc.



Map : 0.5 Mile Radius

Order No: 20191113050

Address: Site 3, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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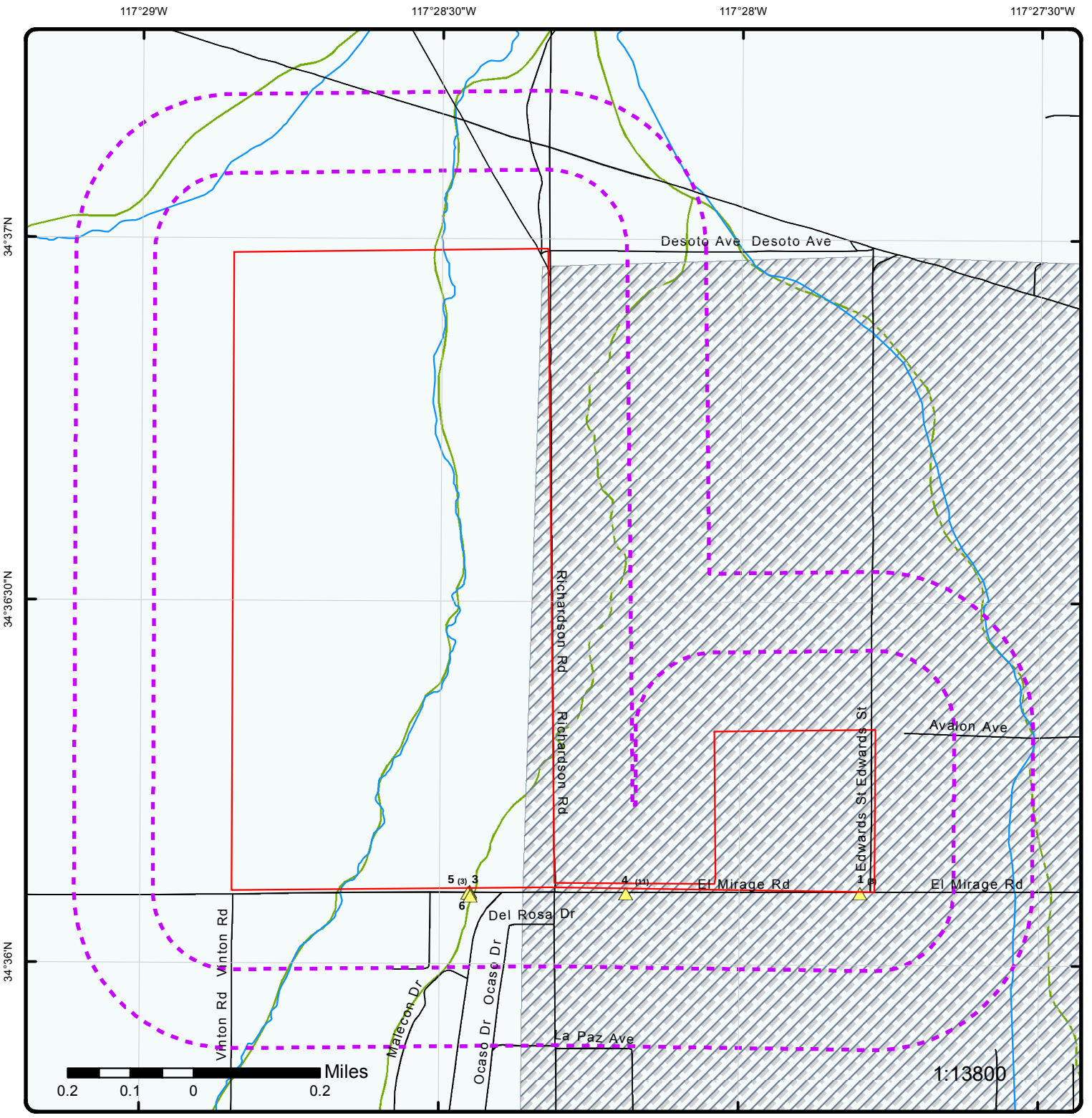

Map : 0.25 Mile Radius

Order No: 20191113050

Address: Site 3, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

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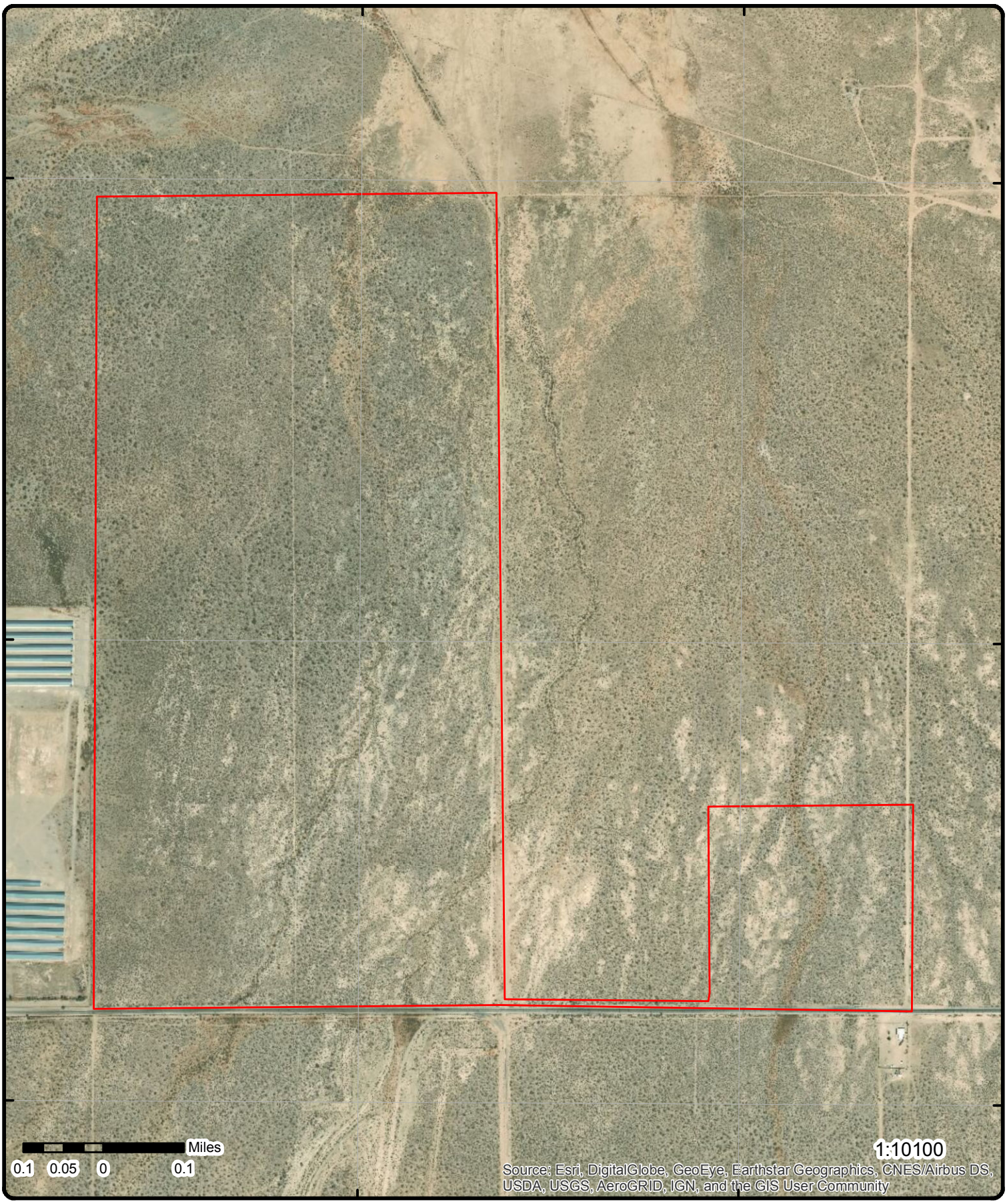

Aerial (2018)

Address: Site 3, Adelanto, CA

Source: ESRI World Imagery

Order No: 20191113050

ENVIRONMENTAL RISK INFORMATION SERVICES

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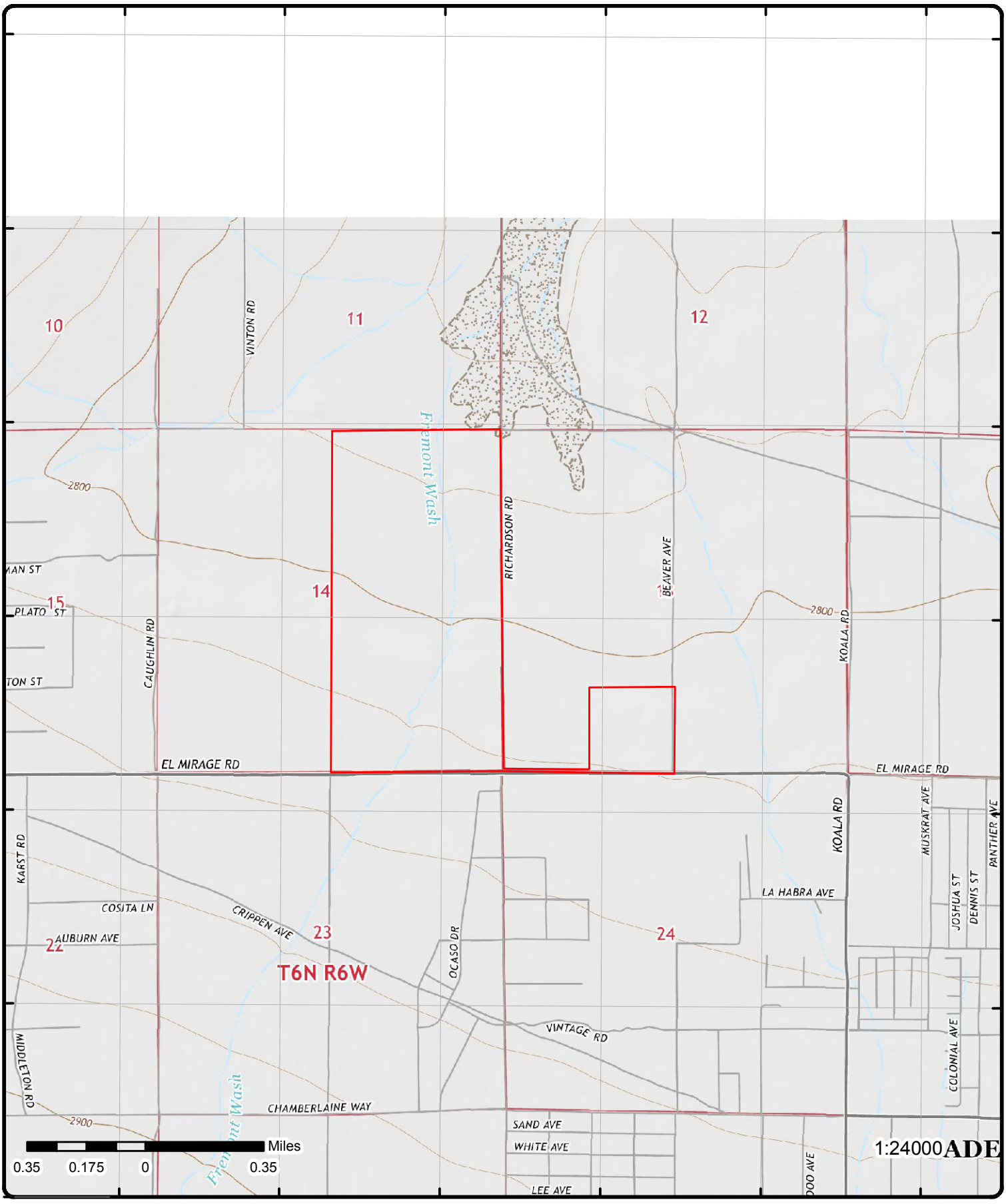

Topographic Map (2015)

Address: Site 3, Adelanto, CA

Quadrangle(s): Adelanto,CA

Source: USGS Topographic Map

Order No: 20191113050

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 3	SE	0.00 / 9.96	2,817.94 / 19	SILVERADO STEEL FABRICATING 8870 EL MIRAGE RD ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0010327
Owner Info: PAYNE, JEANNINE
Mailing Care of:
Mailing Address 1: PO BOX 201
Mailing Address 2:
Mailing City: ADELANTO
Mailing State: CA
Mailing Zip: 92301

Detail(s)

Permit ID: PT0017532
Status: INACTIVE
Program Element Code: 4221
Permit Desc: HAZMAT HANDLER 0-10 EMPLOYEES
To: 5/31/2007

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 3	SE	0.00 / 9.96	2,817.94 / 19	SILVERADO FABRICATING MACHINE COMPANY 8870 EL MIRAGE ADELANTO CA 923019668	HAZNET

SIC Code:
NAICS Code:
EPA ID: CAC002608415
Create Date: 9/19/2006
Fac Act Ind: No
Inact Date: 3/19/2007
County Code: 36
County Name: San Bernardino
Mail Name:
Mailing Addr 1: PO BOX 201
Mailing Addr 2:
Owner Fax:

Mailing City: ADELANTO
Mailing State: CA
Mailing Zip: 923010201
Region Code: 4
Owner Name: JEANIAN PAIN
Owner Addr 1: PO BOX 201
Owner Addr 2:
Owner City: ADELANTO
Owner State: CA
Owner Zip: 923010201
Owner Phone: 7602463650

Contact Information
-- --
Contact Name: JEANIAN PAIN
Street Address 1: PO BOX 201
Street Address 2:
City: ADELANTO
State: CA
Zip: 923010201
Phone: 7602463650
-- --

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of 3	SE	0.00 / 9.96	2,817.94 / 19	L/C ATC ATV RENTALS 8870 EL MIRAGE ADELANTO CA 000000000	HAZNET

SIC Code:
NAICS Code:

Mailing City: SANTA ANA
Mailing State: CA

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

EPA ID:	CAL000004696	**Mailing Zip:**	927040000
Create Date:	11/14/1989	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	WARREN COY
Inact Date:	6/30/1996	**Owner Addr 1:**	--
County Code:	36	**Owner Addr 2:**	
County Name:	San Bernardino	**Owner City:**	--
Mail Name:		**Owner State:**	99
Mailing Addr 1:	4302 W KENT	**Owner Zip:**	--
Mailing Addr 2:		**Owner Phone:**	0000000000
Owner Fax:			

Contact Information

--	--
Contact Name:	DEACT PER VQ96
Street Address 1:	--
Street Address 2:	
City:	--
State:	99
Zip:	--
Phone:	--
--	--

2	1 of 1	S	0.01 / 31.67	2,824.24 / 25	**ALLIED CHEMICAL** **8801 EL MITAGE ROAD** **ADELANTO CA**	HIST CHMIRS

OES Control NO:	9011306	**Incident Date:**	6/12/1990
Release Factors:	Mechanical Failure	**Date Reported:**	6/13/1990
Release Text:		**Fatalities:**	0
Equipm Involved:	HazMat Transfer Equip	**Other Injury:**	0
Action Taken Text:		**Other Decon:**	0
Chemicals:	ACID, HYDROFLUORIC	**Other Fatal:**	0
Case Number:		**Vehicle:**	
HazMat Other:		**State:**	
HM Injury:	0	**CA DOT PUC ICC:**	
Decon:	0	**Company Name:**	ALLIED CHEMICAL
Agency Name:	SAN BERNARDINO CDEHS	**County:**	SAN BERNARDINO
HazMat Pers:	MSDS, Placards/Signs		
Action Taken:	Remove Hazard (Neutralize),Shut Down System		
More than three involved?:	2		

3	1 of 1	S	0.01 / 36.59	2,824.24 / 25	**AEROCHEM INC** **8801 EL MIRAGE RD** **ADELANTO CA 92301**	LUST

Global ID:	T0607100698	**County:**	SAN BERNARDINO
Status:	COMPLETED - CASE CLOSED	**Latitude:**	34.6016349
Status Date:	1990-05-01 00:00:00	**Longitude:**	-117.4741476
Case Type:	LUST CLEANUP SITE		
Date Source:	LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download		

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No:	6B3600157T	**Potential COC:**	* Solvents
Local Case No:	CAD093245645	**How Discovered:**	Subsurface Monitoring
Begin Date:	1990-04-30 00:00:00	**Stop Method:**	
Lead Agency:	DEPARTMENT OF TOXIC SUBSTANCES CONTROL	**Stop Description:**	
Local Agency:	SAN BERNARDINO COUNTY	**Case Worker:**	
CUF Case:	NO	**File Location:**	
Potential Media of Concern:	Under Investigation		
How Discovered Description:			
Calwater Watershed Name:	Mojave - Upper Mojave (628.20)		
DWR GW Subbasin Name:	Upper Mojave River Valley (6-042)		

Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2002-04-03 00:00:00
Action: Staff Letter

Action Type: Other
Date : 1990-05-01 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1990-05-01 00:00:00
Action: Leak Stopped

Action Type: ENFORCEMENT
Date : 1990-05-01 00:00:00
Action: Referral to Other State Agency

Action Type: Other
Date : 1990-05-01 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: CATHERINE RICHARDS
City: SAN BERNARDINO
Organization Name: SAN BERNARDINO COUNTY
Address: 620 SOUTH E STREET
Email: crichards@sbcfire.org
Phone No: 9093868419

Status History

Status: Completed - Case Closed
Status Date: 1990-05-01 00:00:00

Status: Open - Site Assessment
Status Date: 1990-04-30 00:00:00

Status: Open - Case Begin Date
Status Date: 1990-04-30 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Apr 9, 2019)

Site Facility Name: AEROCHEM INC
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: SOLVENTS
WDR Place Type:
WDR File:
WDR Order:
File Location:
Address: 8801 EL MIRAGE RD
City: ADELANTO
Zip: 92301
County: SAN BERNARDINO
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:
Designated Beneficial Use: MUN, AGR, IND, FRSH, AQUA
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0607100698
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/1/1990
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0607100698&tabname=regulatoryhistory
Potential Media of Concern: UNDER INVESTIGATION
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Mojave River Valley (6-042)
Calwater Watershed Name: Mojave - Upper Mojave (628.20)

Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: DEPARTMENT OF TOXIC SUBSTANCES CONTROL (LEAD) - CASE #: CAD093245645
LAHONTAN RWQCB (REGION 6V) - CASE #: 6B3600157T
SAN BERNARDINO COUNTY - CASE #: 90228
CASEWORKER: CATHERINE RICHARDS
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Status History(as of Apr 9, 2019)

Status: Completed - Case Closed
Date : 5/1/1990

Status: Open - Case Begin Date
Date : 4/30/1990

Status: Open - Site Assessment
Date : 4/30/1990

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Apr 9, 2019)

Action Type: Other Regulatory Actions
Action Date: 4/3/2002
Received Issue Date: 4/3/2002
Action: Staff Letter
Doc Link:
Title Description Comments:

AEO-signed mass mailed letter reminding RP of EDF submittal requirement per AB 2886

Action Type: Referral to Other Agency
Action Date: 5/1/1990
Received Issue Date: 5/1/1990
Action: Referral to Other State Agency
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 5/1/1990
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 5/1/1990
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 5/1/1990
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of 11	SSE	0.01 / 40.06	2,822.34 / 23	LEVEL 3 COMMUNICATIONS LLC 8981 EL MIRAGE ADELANTO CA 92301	AST

Total Capacity(Gal): 1,494
CUPA: San Bernardino
Owner Name: LEVEL 3 COMMUNICATIONS
County: San Bernardino

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	2 of 11	SSE	0.01 / 40.06	2,822.34 / 23	CENTURYLINK - ADELANTO - ADLNCAAO 8981 EL MIRAGE RD ADELANTO CA 92301	CERS TANK

Site ID: 523916
Latitude: 34.601527
Longitude: -117.470070

Regulated Programs

EI Description: Aboveground Petroleum Storage
EI ID: 10046980

EI Description: Chemical Storage Facilities
EI ID: 10046980

Evaluations

Eval Date: 02/06/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS
Eval Notes:

INSPECTION - APSA; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/09/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS
Eval Notes:

Eval Date: 02/06/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

INSPECTION - BP; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/09/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP

Eval Source: CERS
Eval Notes:

Affiliations

Affil Type Desc: Legal Owner
Entity Name: Level 3 Communications, LLC
Entity Title:
Address: 1025 Eldorado Blvd, Environmental Management 23-202
City: Broomfield
State: CO
Country: United States
Zip Code: 80021
Phone: (720) 888-1000

Affil Type Desc: Identification Signer
Entity Name: Robert Gurdikian
Entity Title: Sr. EHS Manager
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 1025 Eldorado Blvd, Environmental Management 23-202
City: Broomfield
State: CO
Country:
Zip Code: 80021
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Robert Gurdikian
Entity Title:
Address: 1025 Eldorado Blvd, Environmental Management 23-202
City: Broomfield
State: CO
Country:
Zip Code: 80021
Phone:

Affil Type Desc: Operator
Entity Name: CenturyLink Communications
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (720) 888-0676

Affil Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title:
Address: 620 South E Street
City: San Bernardino
State: CA
Country:
Zip Code: 92415-0153
Phone: (909) 386-8401

Affil Type Desc: Document Preparer
Entity Name: Robert Gurdikian

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Parent Corporation
Entity Name: CenturyLink
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code: APSA
Program ID: 10046980
Latitude: 34.601618
Longitude: -117.470093
Coord Name:
Ref Point Type Desc: Unknown

4	3 of 11	SSE	0.01 / 40.06	2,822.34 / 23	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCAAO 8981 EL MIRAGE RD ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0007478
Owner Info: Level 3 Communications, LLC
Mailing Care of:
Mailing Address 1: 1025 Eldorado Blvd, Environmental Management-43C
Mailing Address 2:
Mailing City: Broomfield
Mailing State: CO
Mailing Zip: 80021

Detail(s)

Permit ID: PT0012740
Status: INACTIVE
Program Element Code: 4004
Permit Desc: AST OPERATING PERMIT
To: 11/30/2004

Permit ID: PT0014942
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 11/30/2013

Permit ID: PT0012739
Status: ACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 11/30/2019

Permit ID: PT0012738
Status: ACTIVE
Program Element Code: 4031
Permit Desc: APSA 1,320-10,000 GAL FAC CAPACITY
To: 11/30/2019

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	4 of 11	SSE	0.01 / 40.06	2,822.34 / 23	LEVEL 3 COMMUNICATIONS - EL MIRAGE RD 8981 EL MIRAGE ROAD ADELANTO CA 92301	EMISSIONS

2012 Criteria Data

Facility ID:	132901704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	.00227984016
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	.0016931648

2012 Toxic Data

Facility ID:	132901704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2013 Criteria Data

Facility ID:	132901704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	.00227984016
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	.0016931648

2013 Toxic Data

Facility ID:	132901704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2017 Criteria Data

Facility ID:	132901704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	0
CO:	36	***ROGT:***	0
Air Basin:	MD	***COT:***	0
District:	MOJ	***NOXT:***	0
COID:	SBD	***SOXT:***	0
DISN:	MOJAVE DESERT AQMD	***PMT:***	0
CHAPIS:		***PM10T:***	0

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

2017 Toxic Data

Facility ID:	132901704	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	0		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

4	***5 of 11***	***SSE***	***0.01 / 40.06***	***2,822.34 / 23***	***INTEGRA TELECOM ADELANTO*** ***8981 EL MIRAGE RD.*** ***ADELANTO CA 90231***	***EMISSIONS***

2017 Criteria Data

Facility ID:	194603227	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0031125
CO:	36	***ROGT:***	.00028977375
Air Basin:	MD	***COT:***	.0048375
District:	MOJ	***NOXT:***	.0052125
COID:	SBD	***SOXT:***	.0000131
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0001886317907444668008048289738430583 50101
CHAPIS:		***PM10T:***	.0001875

2017 Toxic Data

Facility ID:	194603227	***COID:***	SBD
Facility SIC Code:	4813	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:	.01		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

4	***6 of 11***	***SSE***	***0.01 / 40.06***	***2,822.34 / 23***	***BROADWING COMMUNICATION ADELCA03*** ***8981 EL MIRAGE ROAD*** ***ADELANTO CA 92301***	***EMISSIONS***

2003 Criteria Data

Facility ID:	93601704	***CERR Code:***	
Facility SIC Code:	4813	***TOGT:***	.0027248
CO:	36	***ROGT:***	0
Air Basin:	MD	***COT:***	.025742
District:	MOJ	***NOXT:***	.0896398
COID:	SBD	***SOXT:***	.00007846
DISN:	MOJAVE DESERT AQMD	***PMT:***	.0017348
CHAPIS:		***PM10T:***	0

2003 Toxic Data

Facility ID:	93601704	***COID:***	SBD

Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2007 Criteria Data

Facility ID:	93601704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	.00227984016
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	.0016931648

2007 Toxic Data

Facility ID:	93601704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2008 Criteria Data

Facility ID:	93601704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	.00227984016
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	.0016931648

2008 Toxic Data

Facility ID:	93601704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2009 Criteria Data

Facility ID:	93601704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	.00227984016
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	.0016931648

2009 Toxic Data

Facility ID:	93601704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2010 Toxic Data

Facility ID:	93601704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2011 Criteria Data

Facility ID:	93601704	**CERR Code:**	
Facility SIC Code:	4813	**TOGT:**	.0027248
CO:	36	**ROGT:**	.00227984016
Air Basin:	MD	**COT:**	.025742
District:	MOJ	**NOXT:**	.0896398
COID:	SBD	**SOXT:**	.00007846
DISN:	MOJAVE DESERT AQMD	**PMT:**	.0017348
CHAPIS:		**PM10T:**	.0016931648

2011 Toxic Data

Facility ID:	93601704	**COID:**	SBD
Facility SIC Code:	4813	**DISN:**	MOJAVE DESERT AQMD
CO:	36	**CHAPIS:**	
Air Basin:	MD	**CERR Code:**	
District:	MOJ		
TS:	9.67		
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

4	***7 of 11***	***SSE***	***0.01 / 40.06***	***2,822.34 / 23***	***LEVEL 3 COMMUNICATIONS LLC 8981 EL MIRAGE RD ADELANTO CA 92301***	***FINDS/FRS***

Registry ID:	110064924523
FIPS Code:	
HUC Code:	18090208
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	10-OCT-2015 07:29:32
Update Date:	
Interest Types:	STATE MASTER

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

SIC Codes:	4813
SIC Code Descriptions:	TELEPHONE COMMUNICATIONS, EXCEPT RADIOTELEPHONE
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No.:	25
Census Block Code:	060710091171001
EPA Region Code:	09
County Name:	SAN BERNARDINO COUNT
US/Mexico Border Ind:	
Latitude:	34.601663
Longitude:	-117.470202
Reference Point:	ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	50
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110064924523
Program Acronyms:	

CA-ENVIROVIEW:130551

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	8 of 11	SSE	0.01 / 40.06	2,822.34 / 23	BROADWING COMMUNICATION ADELCA03 8981 EL MIRAGE ROAD ADELANTO CA 92301-0000	FINDS/FRS

Registry ID:	110038091418
FIPS Code:	06071
HUC Code:	18090208
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	18-FEB-2009 08:32:27
Update Date:	01-JUN-2017 17:18:51
Interest Types:	AIR EMISSIONS CLASSIFICATION UNKNOWN
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	517210
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No.:	25
Census Block Code:	060710091171001
EPA Region Code:	09
County Name:	SAN BERNARDINO
US/Mexico Border Ind:	
Latitude:	34.601663
Longitude:	-117.470202
Reference Point:	ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	50
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110038091418
Program Acronyms:	

EIS:10119211

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	9 of 11	SSE	0.01 / 40.06	2,822.34 / 23	INTEGRA TELECOM ADELANTO 8981 EL MIRAGE RD. ADELANTO CA 90231	FINDS/FRS

Registry ID: 110070521841
FIPS Code: 06071
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 04-MAR-2019 13:28:11
Update Date:
Interest Types: AIR EMISSIONS CLASSIFICATION UNKNOWN
SIC Codes:
SIC Code Descriptions:
NAICS Codes: 517312
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: SAN BERNARDINO
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110070521841
Program Acronyms:

EIS:18261511

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	10 of 11	SSE	0.01 / 40.06	2,822.34 / 23	ELECTRIC LIGHTWAVE INC ADELANTO 8981 EL MIRAGE RD ADELANTO CA 92301	HAZNET

SIC Code: 9999
NAICS Code: 99999
EPA ID: CAL000292554
Create Date: 3/25/2005 9:02:26 AM
Fac Act Ind: No
Inact Date: 6/30/2006
County Code: 36
County Name: San Bernardino
Mail Name: LINDA GAILEY
Mailing Addr 1: PO BOX 10286
Mailing Addr 2:
Owner Fax:

Mailing City: PORTLAND
Mailing State: OR
Mailing Zip: 97296
Region Code: 4
Owner Name: ELECTRIC LIGHTWAVE INC
Owner Addr 1: 4400 NE 77TH AVE
Owner Addr 2:
Owner City: VANCOUVER
Owner State: WA
Owner Zip: 986626829
Owner Phone: 3608163000

Contact Information
-- --
Contact Name: LEE STAUBER
Street Address 1: 313 N 3RD AVE
Street Address 2:
City: PHOENIX
State: AZ

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Zip:	85003
Phone:	8668166505
--	--
--	--
Tanner Information	
--	--
Generator EPA ID:	CAL000292554
Generator County Code:	36
Generator County:	San Bernardino
TSD EPA ID:	INR000110197
TSD County Code:	
TSD County:	
State Waste Code:	791
State Waste Code Desc.:	Liquids with pH <= 2
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.001
Year:	2011
--	--
Generator EPA ID:	CAL000292554
Generator County Code:	36
Generator County:	San Bernardino
TSD EPA ID:	INR000110197
TSD County Code:	
TSD County:	
State Waste Code:	311
State Waste Code Desc.:	Pharmaceutical waste
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0015
Year:	2011
--	--
Generator EPA ID:	CAL000292554
Generator County Code:	36
Generator County:	San Bernardino
TSD EPA ID:	INR000110197
TSD County Code:	
TSD County:	
State Waste Code:	561
State Waste Code Desc.:	Detergent waste chemicals
Method Code:	
Method Description:	
Tons:	0.0035
Year:	2011
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	11 of 11	SSE	0.01 / 40.06	2,822.34 / 23	BROADWING-ADELANTO 8981 EL MIRAGE RD ADELANTO CA 92301	HAZNET

SIC Code:	4899	**Mailing City:**	PALMDALE
NAICS Code:	51339	**Mailing State:**	CA
EPA ID:	CAL000292633	**Mailing Zip:**	93550
Create Date:	3/29/2005 10:24:05 AM	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	BROADWING COMMUNICATIONS
Inact Date:	6/30/2005	**Owner Addr 1:**	1122 CAPITAL OF TEXAS HWY S
County Code:	36	**Owner Addr 2:**	
County Name:	San Bernardino	**Owner City:**	AUSTIN
Mail Name:		**Owner State:**	TX
Mailing Addr 1:	37918 6TH ST E	**Owner Zip:**	78746
Mailing Addr 2:		**Owner Phone:**	8008475705
Owner Fax:			

Contact Information	
--	--
Contact Name:	JOHN RAMIREZ

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Street Address 1:	37918 6TH ST E
Street Address 2:	
City:	PALMDALE
State:	CA
Zip:	93550
Phone:	7609547649
--	--

---

5 *1 of 3* *S* *0.01 / 40.17* *2,824.22 / 25* ***AEROCHEM INC. 8801 EL MIRAGE RD ADELANTO CA 92301*** ***FINDS/FRS***

Registry ID:	110066608166
FIPS Code:	
HUC Code:	18090208
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	14-OCT-2015 12:19:46
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No.:	25
Census Block Code:	060710091171003
EPA Region Code:	09
County Name:	SAN BERNARDINO COUNT
US/Mexico Border Ind:	
Latitude:	34.601644
Longitude:	-117.474106
Reference Point:	ENTRANCE POINT OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	50
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110066608166
Program Acronyms:	

CA-ENVIROVIEW:221702

---

5 *2 of 3* *S* *0.01 / 40.17* *2,824.22 / 25* ***AEROCHEM CORP. 8801 EL MIRAGE RD ADELANTO CA*** ***HIST CHMIRS***

OES Control NO:	8904749	**Incident Date:**	2/8/1989
Release Factors:	Operational Deficiency	**Date Reported:**	2/8/1989
Release Text:		**Fatalities:**	0
Equipm Involved:	Heating Systems	**Other Injury:**	0
Action Taken Text:		**Other Decon:**	0
Chemicals:	SODIUM HYDROXIDE	**Other Fatal:**	0
Case Number:		**Vehicle:**	
HazMat Other:		**State:**	
HM Injury:	0	**CA DOT PUC ICC:**	
Decon:	0	**Company Name:**	
Agency Name:	SAN BERNARDINO CDEHS	**County:**	SAN BERNARDINO
HazMat Pers:			
Action Taken:	Decon-Area(Cleanup),Decon-Person/Equip,Evacuation,Remove Hazard (Neutralize)		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
More than three involved?:	2					
5	3 of 3	S	0.01 / 40.17	2,824.22 / 25	AEROCHEM 8801 EL MIRAGE HWY SHEEP CREEK EL MIRAGE CA 92301	HHSS

County: San Bernardino
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002989c.pdf

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	1 of 1	S	0.01 / 59.69	2,824.67 / 26	AEROCHEM 8801 EL MIRAGE HWY EL MIRAGE CA	HIST TANK

Owner Name: AEROCHEM INC.
Owner Street: 1885 N. BATAVIA ST.
Owner City: ORANGE
Owner State: CA
Owner Zip: 926654190
No of Containers: 17
County: SAN BERNARDINO
Facility State: CA
Facility Zip: 92301

Unplottable Summary

Total: 7 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		RICHARDSON RD, 1/2 MILE N OF EL MIRAGE RD	ADELANTO CA	92301	820113680
CDL		IN 9100 BLOCK OF DESOTO, APPROXIMATELY 7-8 MILES NW OF ADELANTO	CA		820116002
CHMIRS	Kinder Morgan	Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd.	Adelanto CA		821830031
EMISSIONS	AEROCHEM INC	HCR BOX 80A EL MIRAGE RD	ADELANTO CA		861201805
FINDS/FRS	HEIN HETTINGA/A & H DAIRY 1&2	3350 & 2750 EL MIRAGE	EL MIRAGE CA	92301	840160637
FINDS/FRS	A & H DAIRY #2	30400 EL MIRAGE RD	EL MIRAGE CA	92301	840093868
HAZNET	EL MIRAGE RECREATIONAL AREA	N OF EL MIRAGE RD, W OF INTER.	ADELANTO CA	000000000	826445313

Unplottable Report

Site:
RICHARDSON RD, 1/2 MILE N OF EL MIRAGE RD ADELANTO CA 92301 CDL

Clue:	2007-12-010
Date:	12/8/2007
County:	SAN BERNARDINO
Lab Type:	A
Lab Type Description:	Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site:
IN 9100 BLOCK OF DESOTO, APPROXIMATELY 7-8 MILES NW OF ADELANTO CA CDL

Clue:	2002-03-156
Date:	3/24/2002
County:	SAN BERNARDINO
Lab Type:	L
Lab Type Description:	Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

Site: ***Kinder Morgan***
Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd. Adelanto CA CHMIRS

Clean Control No:		***Notified Date:***	12/20/2006 5:01
Notified Date Time:		***Year:***	2006
County:	San Bernardino County		
URL:			

California Hazardous Material Incident Report System (as of 2006 to 2015)

Contained:	Yes	***3 Ves >= 300 Tons:***	
1 Substance:	Jet Fuel	***Incident Date:***	12/20/2006
1 Measure:	Unknown	***Incident Time:***	429
1 Other:		***Spill Site:***	Pipe Line
1 Quantity:	Unk	***Injuries?:***	
1 Type:	PETROLEUM	***No of Injuries:***	0
1 Pipeline:		***Fatals?:***	
1 Vessel >= 300 Tons:		***No of Fatals:***	0
2 Substance:		***Evacs?:***	
2 Quantity:		***No of Evacs:***	0
2 Measure:		***Cleanup:***	Contractor
2 Type:		***Site:***	
2 Other:		***Cause:***	
2 Pipeline:		***Cause Other:***	
2 Vessel >= 300 Tons:		***Dog No:***	
3 Substance:		***Water:***	Yes
3 Quantity:		***Water Way:***	
3 Measure:		***City:***	Adelanto
3 Type:		***County:***	San Bernardino County
3 Other:		***Zip:***	
3 Pipeline:			

Admin Agency:	San Bernardino County Health Department
Notification Area:	AA/CUPA,DFG-OSPR,DTSC,RWQCB,US EPA,USFWS,SFM
Location:	Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd.
Description:	Stain on the ground. Company has 35 miles of pipeline that was taken out of service and they are now filling it back up. A drip was noticed at the bottom of the valve coming out of body bleed. There is no substance standing on the ground, just a stain approx 3' in diameter on the ground Pipeline was shutdown at 0430. Pumping was resumed at

0450.

Spill Report View

Amount 1:		***Creation Date:***	12/20/2006 05:18 AM
Amount 2:		***Received By:***	
Amount 3:		***Admin Agency:***	
Type:	PETROLEUM	***Admin Agency 2:***	
Water:		***Additional County:***	
On Scene:		***Phone No:***	
Other on Scene:		***Ext:***	
Other Notified:		***Pag Cell:***	
Document Title:	Cal OES-Update		
Spill Site:			
Cause Desc for Other:			
Person Notifying Cal OES:			

OES Hazardous Materials Spill Update

Notify Date:	12/20/2006
Notify Time:	0501
Occurrence Date:	12/20/2006
Occurrence Time:	
Upd Known Impact:	
Update Cause:	
Pers Notifying Upd Place:	
Pers Notifying Upd Nme:	
Phone No:	
Ext:	
Pag Cell:	
Fax Notifi List:	AA/CUPA, DFG-OSPR, DTSC, RWQCB, US EPA, USFWS, SFM
Person Notifying Cal OES Agenc:	Kinder Morgan
Person Reporting Spill Agency:	
Op Area:	San Bernardino County
Unknown Header:	
Substance 1:	Jet Fuel
Qty Amount 1:	Unk
Measure 1:	Unknown
Type 1:	PETROLEUM
Other 1:	
Pipeline 1:	
Vessel >= 300 Tons 1:	
Substance 2:	
Qty Amount 2:	
Measure 2:	
Type 2:	
Other 2:	
Pipeline 2:	
Vessel >= 300 Tons 2:	
Substance 3:	
Qty Amount 3:	
Measure 3:	
Type 3:	
Other 3:	
Pipeline 3:	
Vessel >= 300 Tons 3:	
Administering Agency:	San Bernardino County Health Department
Secondary Agency:	
Additional Counties:	
Additional Admin Agency:	
Other Notified:	
RWQCB Unit:	
Confirmation Request:	
Fax Notification List 2:	
Administering Agency 2:	
Additional Admin Agency 2:	
Secondary Agency 2:	
Additional Counties 2:	

DOG Unit:
RWQCB Unit 2:
Doc URL: https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/f13753cb1e9d29c58825724a00492502?OpenDocument
NRC: 821539
Update Description:

Situation Update:

Report received from NRC #821539. This is a 6" pipeline.

Original Description:

OES Hazardous Materials Update Quantities

Amount:
Measure: Unknown

Spill Report View

Amount 1:		***Creation Date:***	12/20/2006 05:01 AM
Amount 2:		***Received By:***	
Amount 3:		***Admin Agency:***	
Type:	PETROLEUM	***Admin Agency 2:***	
Water:		***Additional County:***	
On Scene:		***Phone No:***	
Other on Scene:		***Ext:***	
Other Notified:		***Pag Cell:***	
Document Title:	SPILL Report		
Spill Site:	Pipe Line		
Cause Desc for Other:			
Person Notifying Cal OES:			

Hazardous Materials Spill Report

Control Cal OES:	06-7499	***Type 3:***	
Control NRC:		***Other 3:***	
Date :	12/20/2006	***Pipeline 3:***	No
Incident Date:	12/20/2006	***Ves >= 300 Tons 3:***	No
Time:	0501	***Name:***	
Incident Time:	0429	***Phone:***	
Water Involved:	Yes	***Ext:***	
Drink Wtr Impact:		***Pag Cell:***	
Qty 1:	=	***PRS Name:***	
Measure 1:	Unknown	***PRS Phone:***	
Type 1:	PETROLEUM	***PRS Ext:***	
Pipeline 1:	No	***PRS Pag Cell:***	
Ves >= 300 Tons 1:	No	***Received By:***	
Qty 2:	=	***Header Unknown:***	MOJAVE DESERT AQMD
Amount 2:		***Incident Desc:***	
Measure 2:		***R R Crssing < 50 Ft:***	
Type 2:		***Uprr Rim :***	
Other 2:		***Notification Info:***	
Pipeline 2:	No	***Notification List:***	
Vessel >= 300 Tns 2:	No	***DOG Unit:***	
Qty 3:	=	***RWQCB Unit:***	6B
Amount 3:		***Injuries:***	No
Measure 3:		***Fatality:***	No
Incident Location:	Pipeline MP 6.678 @ Intersection of El Mirage Rd and Koala Rd.		
Reported Cause:			
Amount 1:	Unk		
Substance 1:	Jet Fuel		
Substance 2:			
Substance 3:			
Waterway:			
Contained:	Yes		
Known Impact:			
Other 1:			

Detail for Other:
Site: Pipe Line
On Scene:
Other on Scene:
Other Notified:
Evacuation: No
Cleanup By: Contractor
Agency: Kinder Morgan
PRS Agency:
Admin Agency: San Bernardino County Health Department
Sec Agency:
Additional County:
Admin Agency 2:
Description: Stain on the ground. Company has 35 miles of pipeline that was taken out of service and they are now filling it back up. A drip was noticed at the bottom of the valve coming out of body bleed. There is no substance standing on the ground, just a stain approx 3' in diameter on the ground Pipeline was shutdown at 0430. Pumping was resumed at 0450.

Spill Report View

Amount 1:
Amount 2:
Amount 3:
Type: PETROLEUM
Water:
On Scene:
Other on Scene:
Other Notified:
Document Title: Cal OES-Update
Spill Site:
Cause Desc for Other:
Person Notifying Cal OES:
Creation Date: 12/20/2006 05:20 AM
Received By:
Admin Agency:
Admin Agency 2:
Additional County:
Phone No:
Ext:
Pag Cell:

OES Hazardous Materials Spill Update

Notify Date: 12/20/2006
Notify Time: 0501
Occurrence Date: 12/20/2006
Occurrence Time:
Upd Known Impact:
Update Cause:
Pers Notifying Upd Place:
Pers Notifying Upd Nme:
Phone No:
Ext:
Pag Cell:
Fax Notifi List: AA/CUPA, DFG-OSPR, DTSC, RWQCB, US EPA, USFWS, SFM
Person Notifying Cal OES Agenc: Kinder Morgan
Person Reporting Spill Agency:
Op Area: San Bernardino County
Unknown Header:
Substance 1: Jet Fuel
Qty Amount 1: Unk
Measure 1: Unknown
Type 1: PETROLEUM
Other 1:
Pipeline 1:
Vessel >= 300 Tons 1:
Substance 2:
Qty Amount 2:
Measure 2:
Type 2:
Other 2:
Pipeline 2:
Vessel >= 300 Tons 2:
Substance 3:
Qty Amount 3:
Measure 3:

Type 3:
Other 3:
Pipeline 3:
Vessel >= 300 Tons 3:
Administering Agency: San Bernardino County Health Department
Secondary Agency:
Additional Counties:
Additional Admin Agency:
Other Notified:
RWQCB Unit:
Confirmation Request:
Fax Notification List 2:
Administering Agency 2:
Additional Admin Agency 2:
Secondary Agency 2:
Additional Counties 2:
DOG Unit:
RWQCB Unit 2:
Doc URL: https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/266c26fcacb1f53c8825724a00493f49?OpenDocument
NRC:
Update Description:

Situation Update:

Original report indicates water involved, this is a typo, NO WATER INVOLVED>

Original Description:

OES Hazardous Materials Update Quantities

Amount:
Measure: Unknown

Site: ***AEROCHEM INC***
HCR BOX 80A EL MIRAGE RD ADELANTO CA

EMISSIONS

1987 Criteria Data

Facility ID:	700000246	***CERR Code:***	
Facility SIC Code:	3599	***TOGT:***	82.4
CO:	36	***ROGT:***	69.88344
Air Basin:	MD	***COT:***	
District:	MOJ	***NOXT:***	9
COID:	SBD	***SOXT:***	
DISN:	MOJAVE DESERT AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

1987 Toxic Data

Facility ID:	700000246	***COID:***	SBD
Facility SIC Code:	3599	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1990 Criteria Data

Facility ID:	700000246	***CERR Code:***	
Facility SIC Code:	3599	***TOGT:***	128
CO:	36	***ROGT:***	108.5568

Air Basin:	MD	***COT:***	1.2
District:	MOJ	***NOXT:***	9
COID:	SBD	***SOXT:***	
DISN:	MOJAVE DESERT AQMD	***PMT:***	.2
CHAPIS:		***PM10T:***	.18

1990 Toxic Data

Facility ID:	700000246	***COID:***	SBD
Facility SIC Code:	3599	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Site: ***HEIN HETTINGA/A & H DAIRY 1&2***
3350 & 2750 EL MIRAGE EL MIRAGE CA 92301

FINDS/FRS

Registry ID:	110066002453
FIPS Code:	
HUC Code:	18090208
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	14-OCT-2015 09:25:36
Update Date:	
Interest Types:	STATE MASTER
SIC Codes:	0241
SIC Code Descriptions:	DAIRY FARMS
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	CALEPA
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No.:	25
Census Block Code:	060710091172443
EPA Region Code:	09
County Name:	SAN BERNARDINO COUNT
US/Mexico Border Ind:	
Latitude:	34.60418
Longitude:	-117.59388
Reference Point:	
Coord Collection Method:	UNKNOWN
Accuracy Value:	
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110066002453
Program Acronyms:	

CA-ENVIROVIEW:122112

Site: ***A & H DAIRY #2***
30400 EL MIRAGE RD EL MIRAGE CA 92301

FINDS/FRS

Registry ID:	110065690309
FIPS Code:	
HUC Code:	18090208
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	13-OCT-2015 13:27:55
Update Date:	

Interest Types:	STATE MASTER
SIC Codes:	0241
SIC Code Descriptions:	DAIRY FARMS
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	CALEPA
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No.:	25
Census Block Code:	060710091172590
EPA Region Code:	09
County Name:	SAN BERNARDINO COUNT
US/Mexico Border Ind:	
Latitude:	34.601429
Longitude:	-117.507387
Reference Point:	
Coord Collection Method:	INTERPOLATION-MAP
Accuracy Value:	
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110065690309
Program Acronyms:	

CA-ENVIROVIEW:306885

Site: ***EL MIRAGE RECREATIONAL AREA***
N OF EL MIRAGE RD, W OF INTER. ADELANTO CA 000000000

HAZNET

SIC Code:		***Mailing City:***	BARSTOW
NAICS Code:		***Mailing State:***	CA
EPA ID:	CAL000093534	***Mailing Zip:***	923110000
Create Date:	1/3/1995	***Region Code:***	4
Fac Act Ind:	No	***Owner Name:***	U S DEPT OF INTERIOR, BUREAU
Inact Date:	6/30/1996	***Owner Addr 1:***	OF LAND MGMT
County Code:	36	***Owner Addr 2:***	
County Name:	San Bernardino	***Owner City:***	--
Mail Name:		***Owner State:***	99
Mailing Addr 1:	150 COOLWATER LANE	***Owner Zip:***	--
Mailing Addr 2:		***Owner Phone:***	0000000000
Owner Fax:			

Contact Information

--	--
Contact Name:	DEACT PER VQ96INT SUPV
Street Address 1:	--
Street Address 2:	
City:	--
State:	99
Zip:	--
Phone:	6193884361
--	--

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Aug 20, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Aug 20, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Aug 20, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Aug 20, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Aug 20, 2019

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Aug 26, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Aug 26, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Aug 26, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Aug 26, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Aug 26, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Aug 26, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jun 11, 2019

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jun 11, 2019

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Oct 8, 2019

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Aug 20, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Aug 20, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Oct 1, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Oct 1, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Oct 1, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Aug 19, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Oct 1, 2019

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Jul 17, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jul 17, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Oct 8, 2019

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 17, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Oct 8, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Sep 11, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Oct 1, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Sep 23, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jul 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Oct 1, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jul 17, 2019

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Oct 4, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Aug 19, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

County

San Bernardino County - CUPA List: SANBERN CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in San Bernardino County. This list is made available by San Bernardino County Fire Department which is the CUPA for all areas of the County except the city of Victorville.

Government Publication Date: Oct 17, 2019

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Nov 15, 2018

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Aug 12, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Sep 26, 2019

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Aug 20, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: May 3, 2019

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Oct 1, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: May 31, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jul 17, 2019

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.Y

Government Publication Date: Oct 17, 2019

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Aug 27, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Jul 16, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Oct 1, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jul 15, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Jul 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Jul 17, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Meg Haile

Assistant Scientist

PROFESSIONAL EXPERIENCE

Meg is an assistant scientist in Terracon's Tustin, California office, she transferred from the Houston, Texas office in October of 2019. In the Tustin office she helps prepare Phase I Environmental Site Assessment (ESA) reports. These efforts involve field survey, interviews with property owners, Environmental Data Resource reports and file reviews at local county and city regulatory offices. As required, each ESA is prepared and finalized in accordance with new ASTM Standards. In the Houston office Meg worked within the Regulatory Compliance department. There she assisted project managers in preparation of Stormwater Pollution Prevention Plans (SWPPPs), Spill Prevention Control and Countermeasures (SPCCs), Municipal Separate Storm Sewer System permits (MS4) and Texas Department of Transportation (TXDOT) outfall mapping. She added in the field monitoring and sampling to confirm her clients were in compliance with necessary permits.

PROJECT EXPERIENCE

Solar Farm – Adelanto, California

Meg aided in the site reconnaissance of vacant land to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

Food Processing LECA – Vernon, California

Meg aided in the drafting of a Limited Environmental Compliance Assessment determining if the facility was in compliance and up to date with all necessary environmental permits. This included reaching to government agencies to obtain current permits and inspecting documents provided by the client to determine what corrections needed to be made.

Food Processing ESA – Vernon, California

Meg aided in the site reconnaissance of an industrial food production facility to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

EDUCATION

Bachelor of Science,
Wildlife and Fishery Science,
Texas A&M University, College Station, TX

WORK HISTORY

Terracon Consultants, Inc.,
Assistant Scientist,
July 2019 – Present

Texas A&M University,
Student Researcher,
2017-2018

DBS Allergy,
Allergy Technician,
2016-2019

Jennifer S. Van

Project Manager



PROFESSIONAL EXPERIENCE

Ms. Van is an Environmental Group Manager in Terracon's Orange County, California Office. She has over seven years of experience in Environmental Services; Phase I Environmental Site Assessments (ESAs), Limited Subsurface Investigations (LSIs), Spill Prevention, Control and Countermeasure Plans, Radon Measurement Provider. In addition, Ms. Van has some experience with regulatory compliance. Ms. Van assists with client and team management.

PROJECT EXPERIENCE

Environmental Site Assessment (ESAs):

Performed and managed hundreds of ESAs in California and several in Hawaii and Alaska for industrial, commercial, residential, and agricultural properties. Managed long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers and other real property owners. Understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water and groundwater. Is experienced in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined in Section 312.10 of 40 CFR 312.

Radon Assessments

Performed and managed over 10 radon assessments including commercial and residential in California.

Limited Subsurface Investigations (LSIs):

Performed and managed over 10 LSI's in California. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data.

Spill Prevention, Control And Countermeasure Plans (SPCCs)

Ms. Van has experience with federal and state requirements for Spill Prevention, Control and Countermeasure Plans for Tier I and II qualified facilities.

EDUCATION

Bachelor of Science,
Environmental Sciences: Natural Sciences.
Minor: Business Administration
University of California Riverside, California, 2011.

Masters: Environmental Engineering
California State University, Fullerton, 2018

CERTIFICATIONS

24-Hour AHERA Asbestos Abatement Building Inspector
40-Hour OSHA HAZWOPER
National Radon Proficiency Program
Residential Measurement Provider

WORK HISTORY

Terracon Consultants, Inc. (Tustin, CA). Environmental Group Manager
February 2018 to Present

Terracon Consultants, Inc. (Irvine, CA). Senior Staff Scientist
2014 to February 2018

Terracon Consultants, Inc. (Irvine, CA). Staff Scientist
August 2011 to 2014

Regulatory Compliance, Buena Park and Tipton, California
Project Manager for two regulatory compliance projects in Buena Park and Tipton, California, which included refrigeration and multiple dairy facilities.

Military Base Phase I ESAs and Soil Management Plans – San Diego County, California
Project Manager of ESAs and SMPs of over 100 sites for proposed telecommunication small cell locations within naval bases located within the San Diego County. Findings of the ESAs were utilized in creation of the SMPs, which was implemented at the installation of telecommunications utilities on the various bases.

Automotive Body Shop Portfolio, California
Portfolio assistant manager of environmental consulting services including Phase I ESA. The purpose of the services were to assist a client with a large acquisition of properties.

Resumes

Islam (Sami) R. Noaman, EIT

Senior Associate / Senior Project Manager



PROFESSIONAL EXPERIENCE

Mr. Noaman is an Environmental Department Manager with track record in client management, management of phases of environmental site assessments (ESAs), industrial hygiene services, business environmental risk reviews, site characterizations, regulatory compliance services, and remedial investigation. He possesses excellent analytical, problem solving, advisory, and team management skills.

PROJECT EXPERIENCE

Stormwater Prevention and Pollution Control Plan (SWPPP):
Managed SWPPP for numerous industrial sites in Southern California. Scope of the work typically included client and agency coordination, implementation of guidelines required by the state of California Water Resources Board (SWRB), and preparation of documentations for submittals to the SWRB. In addition, I have managed several limited regulatory compliance projects (annual submittals and Level 1 ERA reporting) for industrial stormwater, to achieve compliance in accordance with the NPDES general permit requirements.

Limited Subsurface Investigations (LSIs):
Performed and managed hundreds of LSIs in California, New Jersey, and New York. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data to pursue closure through state and federal programs including Los Angeles County Site Mitigation Unit, the California Regional Water Quality Control Board, and the Department Of Toxic Substances Control Voluntary Cleanup Programs (VCP).

Hazardous Materials Surveys:
Mr. Noaman is the Industrial Hygiene Manager in the Orange County, California office. He managed numerous hazardous materials surveys in the state of california including, but not limited to, asbestos, lead in paint, mold, pcbs, and mercury-containing equipment.

EDUCATION

Bachelor of Science, Chemistry/Environmental Chemistry, 2002, City University of New York, City College of New York

Pursuing Masters in Environmental Engineering (California State University Fullerton-expected graduation date Spring 2019)

CERTIFICATIONS

Certified Engineer In Training (CA) Certification No. EIT 171371
40-Hour OSHA Hazardous Waste Operations & Emergency Response Training Course

WORK HISTORY

Terracon Consultants, Inc. (Irvine, CA), Environmental Group/Department Manager, June 2012 to Present

Smith Emery GeoServices (SEG), (Los Angeles, CA), Project Engineer, August 2008 to June 2012

KLK Environmental Group LLC. (Kearny, NJ). Environmental Scientist -August 2003 to June 2008

UniChem Inc. (Kearny, NJ). Staff Environmental Chemist - August 2002 to June 2003

Islam (Sami) R. Noaman, EIT (continued)

Major Department Store Commercial Retail Portfolio:
Environmental team lead for evaluating environmental site conditions and due diligence review, including overseeing Phase I Environmental Site Assessments and Phase II Environmental Site Investigations for over thirty retail facilities with automotive maintenance across California. Findings from subsurface investigations were used to support regulatory closure of select facilities to facilitate a real estate transaction across the United States.

Industrial Facility – Land-use Change/Private School, Los Angeles, CA:
Environmental consulting services including Phase I Environmental Site Assessments (ESA) due diligence support, subsurface investigation activities to evaluate environmental media including soil, soil gas and indoor / outdoor air. Services included a land-use change from an industrial facility to a private school. Prepared environmental investigation reports, regulatory interaction, corrective action design for indoor air mitigation, and work plan for management of environmental media.

Retail Shopping Center – Former Dry Cleaners Facility – DTSC, Fremont, CA:
Conducted extensive site investigation activities to evaluate the magnitude and extent of chlorinated solvents identified in the vicinity of a former dry cleaners facility, including an evaluation of groundwater, soil, soil-gas and indoor vapors as a result of a chlorinated solvent plume. Project responsibilities consisted of direct support and interaction with client, client legal team and DTSC representatives to manage the closure process, including the preparation of work plans and environmental investigation reports, risk-based human health evaluation, and response actions.

Underground Storage Tank Assessment and Monitoring – West Los Angeles, CA:
Assisted property owner with the regulatory closure of former underground storage tank (UST) site located in West Los Angeles, California. The project scope included historical research of past site use and site characterization, including soil, groundwater and soil gas assessments, followed by groundwater monitoring until closure was achieved.

Automated Fuel Dispensing Facilities – Camp Pendleton, California:
Project scope included environmental and geotechnical investigations at six fueling existing/proposed facilities within Camp Pendleton, California. The project consisted of construction of new buildings, canopies, pavements, retaining walls, slopes, and installation of underground storage tanks (USTs), and other site facilities. Served as the environmental group leader.

Emerson College, Hollywood, California:
Conducted comprehensive investigation and assisted the client through enrolling and interacting with the LAFD regarding USTs found during construction activities. Provided construction management oversight to manage impacted soils and assisted the client in waste disposition, permitting and regulatory compliance interaction. A total of 45,000 cubic yards of soil was removed from the site and disposed at an off-site facility, prior to the construction of a mid-rise school complex. Support services allowed for significant savings in construction, on an expedited timeline in concert with the construction schedule.

Los Angeles Unified School District (LAUSD Sites):
Managed soil characterization for export/import soils for over nine Los Angeles Unified School District (LAUSD) sites. Prepared Sample Strategy Plans (SSP) for stockpiled and in-place soils, oversaw the sampling, and prepared soil certification reports under the supervision of a professional geologist for submittal to the LAUSD Office of Environmental Health.

Islam (Sami) R. Noaman, EIT (continued)

Newton Plastics, Newton, NJ:

Managed the removal of two 12,000-gallon (solvents & gasoline containing) USTs from a plastic products manufacturing facility as a part of transaction deal. Project tasks included, work plan preparation, regulatory officials interface, client contact/coordination, oversight of removal activities, and report preparation. No further action letter from NJDEP was obtained for the client. The property value was retained for the client with our consulting services.

Eagle Electric, Queens, NY:

Responsibilities were to manage the cleanup of former Coal storage rooms in basement of a landmark building in Queens, NY. The cleanup activities included, hauling of approximately 425 tons of Class N-1 Hazardous materials, managed and ensured safety of eight to twelve crew, handling of waste manifests, and coordination for transportation / disposal and client interface.

AROL Chemicals, Newark, NJ:

Managed Phase I and Phase II ESA of chemical manufacturing facility. Scope of Phase II ESA included, the removal of three 12,000-gallon USTs, excavation and disposal of impacted soils.

KeySpan Energy, NY:

Responsibilities include inspection and maintenance of client boilers and tanks systems. Objectives were to prevent scaling/rusting in the boiler systems resulting from the plant operations to maintain operations efficiency. Goals were achieved for the client by developing environmentally friendly chemical reagents (pH controlled) to mitigate the concerns at the plant, boilers maintenance issues were resolved and steady business was created for the company.

The HACH Company, OH:

Implementing unique techniques producing Ferrozine - Iron- reagent for determining trace levels of iron in chemical reagents and glycols. Ferrozine can also be used to analyze samples containing magnetite (black iron oxide) or ferrites.

KIWA of The Netherlands:

Research and development of new synthetic methods of alkali Ferrates including, Potassium, Sodium, and Barium ferrates, an environmentally friendly oxidative reagents used in wastewater treatment for municipal and industrial facilities.

Resumes

Fabio M. Minervini, PG

Environmental Department Manager



PROFESSIONAL EXPERIENCE

Mr. Minervini is a Geologist (P.G.) licensed to practice in the states of California and Oregon with over 20 years of experience in environmental services. He is familiar with all aspects of the environmental industry. During his career, he has managed hundreds of investigation and remediation projects involving soil, groundwater, and soil gas issues; vapor intrusion issues from migrating impacted soil gas; and dissolved plumes, at times commingled with plumes originating at other sources. Mr. Minervini has evaluated and interpreted assessment data, as well as designed groundwater monitoring programs. His experience includes proposing and evaluating the feasibility of various remedial technologies and subsequently managed the engineering design, installation, and operation and maintenance of a variety of remedial systems. In addition, he has provided litigation support related to hydrocarbon contamination at retail fuel stations.

Mr. Minervini has interacted with a variety of regulatory agencies in California in the form of maintaining projects in compliance with agency requirements, as well as proposed work in the voluntary assistance programs on behalf of his clients.

Mr. Minervini has also been responsible for the management of non-technical duties such as conducting job interviews and hiring decisions, as well as annual performance reviews and compensation adjustments, for a team of more than 10 employees.

EDUCATION
Bachelor of Science, Geology, University of California Los Angeles, 1991

REGISTRATIONS
Professional Geologist: California, No. 7861

Registered Geologist: Oregon, No. G2477

CERTIFICATIONS
40-Hour HAZWOPER

Petroleum Education Council, Certification No. 1001022451

Radiation Safety and Use of Nuclear Gauges, Certification No. 21966

AFFILIATIONS
Western States Petroleum Association (WSPA)

National Ground Water Association

Other Affiliations

PROJECT EXPERIENCE

Tesoro Refining and Marketing Company, LLC
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Lead Scoper (and Lead Executer after September 2008) for the Orange County Portfolio (yearly revenue approximately $2.5 million). Managed technical and financial aspects associated with the assessment and remediation of leaking underground storage tank cases in Orange County, California.

Fabio M. Minervini, PG (continued)

ConocoPhillips
Managed site assessment and characterization, groundwater investigation and monitoring, and site remediation for service stations impacted by petroleum hydrocarbon releases in San Mateo County, California.

Atlantic Richfield Company (ARCO)
Managed the assessment of releases from underground storage tanks, the investigation and monitoring of dissolved hydrocarbon plumes, and the remediation of ARCO Stations in the California Desert/East Los Angeles Portfolio.

California Department of General Services
Managed assessment and monitoring of dissolved petroleum hydrocarbons from leaking underground storage tanks at various sites in Merced, Santa Barbara, Riverside, and San Diego Counties, California. Obtained case closure from the Riverside County Department of Environmental Health Services for the forest fire station in Temecula, California.

Kern County General Services Division
Managed ground water monitoring and remediation of the dissolved petroleum hydrocarbons plume originated from the leak of an underground tank storing gasoline at the fire station in Bear Valley Springs, California.

Orange County District Attorney
Managed the third party technical oversight project pertaining to the legal settlements between the Orange County District Attorney Office and Atlantic Richfield Company, and Shell Oil. The role of the third party consultant was to independently review the corrective action at ARCO and Shell gas stations in Orange County, California and provide recommendations, as warranted.

UST Fund Commingled Plume Site No. 00024
Managed under the California Underground Storage Tank Reimbursement Fund Account the site assessment, remediation, and monitoring of the petroleum hydrocarbon impacted soil and ground water at the commingled plume site consisting of ARCO Station 0087 and former Unocal Station 5865 in Hawthorne, California.

Dunn-Edwards Corporation
At a property in Escondido, California, formerly a Unocal service station, managed multiple phases of investigation and characterization of petroleum hydrocarbon impacted soil and ground water.

Dunn-Edwards Corporation
At a property leased in Long Beach, California, obtained a ”no further action” letter from the City of Long Beach Department of Environmental Health Services for the self-initiated site assessment related to the operation and maintenance of a 10,000-gallon underground storage tank storing paint thinner.

Fabio M. Minervini, PG (continued)

Boeing Realty Corporation
Conducted and reported site characterization activities related to the contamination by diesel fuel at the STEVS Unit on the Boeing plant in Huntington Beach, California.

Bradmore Realty Investment Company
Conducted Phase I Investigations for real estate transactions at sites in Los Angeles County, California.

ARCO Products Company
At various service stations in Los Angeles, Orange, and San Diego Counties, California, managed the site characterization, remediation, and groundwater monitoring programs. Managed the removal and replacement of underground storage tanks, and the complete demolition of service stations. Provided technical support in litigation related to petroleum hydrocarbon contamination at service stations in Orange County, California.

Various Responsible Parties
Reviewed files related to environmental issues at various agencies in Southern California.

San Diego Naval Station
Performed investigation and risk assessment study for petroleum hydrocarbon- and metals-impacted sites in the San Diego Harbor, California.

Marine Corps Air Base
Conducted pilot-scale ground water extraction test for remediation of the dissolved-phase trichloroethylene (TCE) and tetrachloroethylene (PCE) plumes at the base in Tustin, California.

Coto de Caza, Private Residential Community
Assisted in the fixation of lead project at the gun range in Coto de Caza, California.

Allied-Signal Chemical Plant
Conducted soil-gas investigation of halogenated volatile organics plume in vadose zone at the plant in El Segundo, California.

Shell/Parsons Reservoirs
Performed two phases (floor and berms) of mitigation by soil blending, remediation by thermal desorption, and closure with low permeability cap of crude oil reservoirs at the Tosco Refinery in Carson, California (former property of Shell Oil Company). Subcontracted by The Ralph M. Parsons Company for both environmental and geotechnical activities.

Reichhold Chemical Plant
Conducted soil-gas investigation of polychlorinated biphenyls (PCBs) in the vadose zone installing multiple completion wells with dual tube air percussion Stratex rig at the plant in Azusa, California.

Fabio M. Minervini, PG (continued)

Caltrans
Assisted in the storm water facilities retrofit evaluation for the Santa Monica Bay watershed in Los Angeles County, California.

Grayson Power Plant
Conducted HydroPunch investigation of trichloroethylene (TCE) Plume in vadose zone and ground water at the plant in Glendale, California.

Shell Offshore, Inc
Performed downhole pressure and temperature data collection, and reservoir interpretation analysis on production platform at Eugene Island Field, Block 331, Gulf of Mexico.

Conoco Oil, Inc.
Assisted in the drill stem test of multiple zones at the West Delta Field, Block 96, Gulf of Mexico.

Exxon, U.S.A.
Assisted in the perforation of multiple productive zones at the South Pass Field, Block 89, Gulf of Mexico.

Oryx Energy Company
Assisted in the flow test of the Upper Zone on the semi-submersible rig Ocean Voyager at the Mississippi Canyon Field, Block 445, Gulf of Mexico.

Leighton & Associates
Performed soil observation, sampling, and testing during mass grading and utilities installation as part of the San Joaquin Hills Transportation Corridor (Wood Canyon) Project conducted by the Mission Viejo Company in the Laguna Hills.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms

Term/Acronym	Description
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

Description of Selected General Terms and Acronyms

Term/Acronym	Description
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water 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. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix E PHASE I ENVIRONMENTAL SITE ASSESSMENTS

E.5 PHASE I ENVIRONMENTAL SITE ASSESSMENT BALDY MESA SOLAR PHASE II SITE 4



Phase I Environmental Site Assessment

Baldy Mesa Solar Phase II – Site 4

APNs: 045811310, 045811312, 045937153 and 045937154

Adelanto, San Bernardino County, California

January 20, 2020

Terracon Project No. 60197507.4



Prepared for:
Sustainable Power Group, LLC (sPower)
Long Beach, California

Prepared by:
Terracon Consultants, Inc.
Tustin, California

terracon.com

Terracon

Environmental ■ Facilities ■ Geotechnical ■ Materials

January 20, 2020

Terracon

Sustainable Power Group, LLC (sPower)
5000 East Spring Street, Suite 130
Long Beach, California 90815

Attn: Mr. Dallas Pugh
P: (562) 348-1119
E: dallas.pugh@spower.com

Re: **Phase I Environmental Site Assessment**
Baldy Mesa Solar Phase II – Site 4
APNs: 045811310, 045811312, 045937154 and 045937153
Adelanto, San Bernardino **County**, California 92301
Terracon Project No. 60197507.4

Dear Mr. Pugh:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed **information on all of Terracon's** services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Jennifer S. Van
Environmental Group Manager

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

for Fabio M. Minervini, P.G.
California Licensed Geologist No. 7861

Attachments

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APPENDICES

APPENDIX A Exhibit 1 - Topographic Map, Exhibit 2 - Site Diagram

APPENDIX B Site Photographs

APPENDIX C Historical Documentation and User Questionnaire

APPENDIX D Environmental Database Information

APPENDIX E Credentials

APPENDIX F Description of Terms and Acronyms

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Jennifer S. Van and Meg Haile performed the site reconnaissance on November 26, 2019.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site consists of three non-contiguous plots of undeveloped land with unimproved roads totaling approximately 63.48 acres. The site is divided into three plots identified as Plot 1, Plot 2, and Plot 3. Plot 1 is located approximately 1,350 feet north of El Mirage Road and 50 feet west of Koala Road, Plot 2 is located approximately 1,350 feet north of El Mirage Road and 220 feet west of Raccoon Avenue and Plot three is located approximately 1,350 feet north of El Mirage Road and 30 feet east of Raccoon Avenue in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Number (APNs): 045811310, 045811312, 045937154 and 045937153). At the time of reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on review of historical information, the site consisted of undeveloped land in 1948. By the late 1950s, an unimproved road along the eastern boundary of Plot 1 was observed. In the late 1960s through the 1980s, an unimproved road along the western boundary of the Plot 3 is visible. Additionally, an unimproved road on the western boundary of the Plot 2 was observed from as early as the mid-1990s through the present.

The surrounding properties consisted of undeveloped land as early as 1948 through the late 1950s, when additional trails and unimproved roads were apparent on the surrounding properties. In the 1990s utility lines are present to the west of Plot 1.

Records Review

Terracon reviewed selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies. The site is not identified in the regulatory databases. The regulatory database report identified six facilities within the specified search radii. The facilities listed in the database report do not appear to represent RECs to the site at this time

based upon regulatory status, apparent topographic gradient, anticipated depth to groundwater in the site vicinity, and/or distance from the site.

Site Reconnaissance

During the site reconnaissance, Terracon observed approximately 35 cubic yards of trash and debris amounting consisting of construction debris, household wastes, furniture, tires and clothes. Recognized environmental conditions (RECs) were not identified.

Adjoining Properties

The property to the north consisted of undeveloped land. The property to the east consisted of undeveloped land and unimproved roads. The property to the south consisted of undeveloped land and a utility station. The property to the west consisted of undeveloped land and utility easement. The central adjoining property between Plot 1 and 2 consisted of undeveloped land, Koala Road (unimproved road), Juan's Way (unimproved road) and an unnamed unimproved road. The central adjoining property between Plot 2 and 3 consisted of undeveloped land and Raccoon Avenue (unimproved road).

Significant Data Gaps

Significant data gaps were not identified.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-13 of Baldy Mesa Solar Phase II – Site 4 located approximately 1,350 feet north of El Mirage Road in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Number (APNs): 045811310, 045811312, 045937154 and 045937153). RECs or Controlled RECs (CREC) were not identified in connection with the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this site assessment, Terracon did not identify RECs in connection with the site. As such, no additional investigation is recommended at this time.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Baldy Mesa Solar Phase II – Site 4
Site Location/Address	The site consists of three non-contiguous plots of undeveloped land with unimproved roads totaling approximately 63.48 acres. The site is divided into three plots identified as Plot 1, Plot 2, and Plot 3. Plot 1 is located approximately 1,350 feet north of El Mirage Road and 50 feet west of Koala Road, Plot 2 is located approximately 1,350 feet north of El Mirage Road and 220 feet west of Raccoon Avenue and Plot three is located approximately 1,350 feet north of El Mirage Road and 30 feet east of Raccoon Avenue in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Number (APNs): 045811310, 045811312, 045937154 and 045937153).
Land Area	Approximately 63.48 Acres
Site Improvements	None
Anticipated Future Site Use	Commercial Use Solar Farm
Purpose of the ESA	Conditional use permit for development and operation of a photovoltaic solar utility plant.

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibit 2 of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and

liquid at the surface or subsurface, and vapor in the subsurface." By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- At the issuance of this report, a response has not been received from the Adelanto City Clerk and Mojave Desert Air Pollution Control District Based on a review of the historical information and the regulatory database, the absence of these responses do not represent a data gap to the site.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Sustainable Power Group, LLC (sPower). Use or reliance by any other party is prohibited without the written authorization of Sustainable Power Group, LLC (sPower) and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Mr. Dallas Pugh, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

Terracon's consideration of the client provided information did not identify RECs. A copy of the questionnaire is included in Appendix C.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 2,800 feet above sea level.	USGS Topographic Map, Victorville NW and Adelanto California, 1993 Map (Appendix A)
Topographic Gradient	Towards the north-northwest.	
Closest Surface Water	Unnamed creek located on the northern portion of Plot 3 of the site.	
Soil Characteristics		
Soil Type	Lavic loamy fine sand	San Bernardino County, CA Soil Source issued Site Soil Survey Dated September 17, 2019
Description	The soil is moderately well drained with 0 to 5 percent slope. Parent material consists of alluvium derived from granite sources. Typical soil profile is loamy fine sand from 0 to 10 inches, loamy sand, loamy fine sand, loam, and sandy loam form 10 to 20 inches and loamy sand and stratified	

Physical Setting Information		Source
	sand to loamy sand from 20 to 49 inches.	
Geology/Hydrogeology		
Formation	Q, Quaternary Deposits	California Department of Conservation, Geologic Map of California, Dated 2010
Description	Alluvium lake, playa and terrace deposits. Unconsolidated and semi-consolidated.	
Estimated Depth to First Occurrence of Groundwater	Depth to groundwater in the region is approximately 300 feet below grade surface (bgs), reported at a site located approximately 1.6 miles north of the site.	GeoTracker Gamma Global ID S8_MOBS_R09
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the north-northwest).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15 year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from ERIS to evaluate past uses and relevant characteristics of the site and surrounding properties. ERIS provided Sanborn maps as summarized below.

- Topographic maps:
  - Victorville, California published in **1956** (1:62,500)
  - Victorville, North West California published in **1956, 1968, 1993, and 2015 (1:24,000)**
- Aerial photographs:
  - USAF, **1948,** 1”=500’

- USGS, **1952, 1968, 1978**, and **1995,** 1"=500'
- ASCS, **1959,** 1"=500'
- NHAP, **1985,** 1"=500'
- NAIP**, 2005, 2010, 2012**, and **2018,** 1"=500'

Historical Maps and Aerial Photographs

Direction	Description
Site	Undeveloped land (1948); unimproved road along eastern boundary of the Plot 1 (1952-1959); unimproved road along western boundary of the Plot 3 (1968-1985); unimproved road along western boundary of the Plot 2 (1995-2018).
North	Undeveloped land (1948); unimproved road running from the west connecting to the northern portion of the Plot 3 (1952-1978); unimproved roads due north and northeast (1985-1995); utility lines and industrial complex to the northwest (1995-2018)
East	Undeveloped land with unimproved road to the south east (1948-1952); unimproved road to the northeast (1959-1968): unimproved roads to the east and northeast (1978-2018)
South	Unimproved road south, asphalt-paved road southwest, residential location in the southeast (1948); unimproved road due south of the Plot 1, residential location southwest (1952-1959); unimproved road due south of the Plot 3 (1968-1975); developed with residential neighborhood to the southeast (1985) unimproved road due south of the Plot 2 (1195-2018).
West	Undeveloped land with asphalt-paved road to the southwest (1948); unimproved road to the northwest (1952-1985); utility lines due west (1995-2018)
Central Adjoining between Plot 1 and 2	Undeveloped land (1948); unimproved road along eastern boundary of the Plot 1 (1952-2085); unimproved road from southeastern corner of Plot 1 to southwestern corner of Plot 2 (1995-2012); unimproved road from northwest to southeast (2018).
Central Adjoining between Plot 2 and 3	Undeveloped land (1948-1959); unimproved road along western boundary of the Plot 3 (1968-2018)

3.2 Historical City Directories

The ERIS Digital Business Directory and Haines city directories used in this study were made available through ERIS (selected years reviewed: 1971-2018) and were reviewed at approximate five-year intervals, if readily available. Street listings not available prior to 1971. The current site address was not identified.

Historical City Directories

Direction	Description
Site	No Listings
North	No Listings

Direction	Description
South	**19402 Koala Road** No listings (1971-2010); Level 3 Communications (2014); No Listings (2018) ***19408 Koala Road*** No listings (1971-2018)
East	No Listings
West	No Listings

The off-site underlined and italicized facilities were identified in the regulatory database and are further discussed in Section 4.1.

3.3 Site Ownership

Based information provided by client, Mr. Dallas Pugh, and on a review of the Stewart Title – Preliminary Report, dated March 8, 2019, the current owner is Drake and Joy Scheetz Revocable Trust (APN: 045811310); based on a review of the Stewart Title – Preliminary Report, dated January 30, 2019 the current owner the current owner is Denise L. Begin Trust (APN 045811312); based on a review of the Stewart Title – Preliminary Report, dated February 25, 2019, the current owner is John V. Kay and Michelle F. Kay (APNs 045937153 and 045937154).

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individual was interviewed regarding the current and historical use of the site.

Interviewee

Interviewer	Name / Phone #	Title	Date/Time
Jennifer Van	Mr. Dallas Pugh / 562-348-1119	Permitting Manager	November 11, 2019 Via e-mail

Terracon interviewed Mr. Dallas Pugh on November 11, 2019. Mr. Pugh indicated the following to the best of his knowledge:

- The site is undeveloped land and he is not aware of on-site operations.
- Illegal dumping has taken place on the site and surrounding vicinity.
- Utility pipelines are running through the site
- The area is known to be occupied by the Desert Tortoise, Mojave Ground Squirrel, Burrowing Owl, American Badger and Kit Foxes.
- He is not aware of any pending environmental litigation involving the site, nor of any environmental concerns in the site or in its vicinity, besides the fuel island.

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERC	Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS	0.5	0
CERL	CERCLIS Liens	Site	0
CNFR	CERCLIS - No Further Remedial Action Planned	0.5	0
EC	Federal Engineering Controls-ECs	0.5	0
ERN1	Emergency Response Notification System	Site	0
ERN2	Emergency Response Notification System	Site	0
ERNS	Emergency Response Notification System	Site	0
FBFL	The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database	0.5	0
FRS	Facility Registry Service/Facility Index	Site	0
HMIR	Hazardous Materials Information Reporting System	0.10	0
HTSC	Hist TSCA	0.10	0
IC	Federal Institutional Controls- ICs	0.5	0
IODI	EPA Report on the Status of Open Dumps on Indian Lands	0.5	0
NCDL	National Clandestine Drug Labs	Site	0
NPL	National Priority List	1	0
NPLD	Delisted NPL	0.5	0
NPLP	National Priority List - Proposed	1	0
ODI	Inventory of Open Dumps, June 1985	0.5	0
RCOR	RCRA CORRACTS- Corrective Action	1	0
RGEN	RCRA Generator List	0.25	0
RNGN	RCRA Non-Generators	0.25	0
RTSD	RCRA non-CORRACTS TSD Facilities	0.5	0
TRI	Toxics Release Inventory (TRI) Program	Site	0
TSCA	Toxic Substances Control Act	0.10	0

State/Tribal Databases

Database	Description	Distance (miles)	Listings
AST	Aboveground Storage Tanks	0.25	0
CDL	Clandestine Drug Lab Sites	0.10	0
CHMR	California Hazardous Material Incident Report System (CHMIRS)	Site	0
DEED	Deed Restrictions and Land Use Restrictions	0.5	0
ENVS	EnviroStor Database	1	0
GTCL	GeoTracker Cleanup Sites Data	0.5	0

Database	Description	Distance (miles)	Listings
HLUR	Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions	0.5	0
HWF	EnviroStor Hazardous Waste Facilities	1	0
ICE	EnviroStor Inspection, Compliance, and Enforcement	1	0
ILST	Leaking Underground Storage Tanks (LUSTs) on Indian Lands	0.5	0
IUST	Underground Storage Tanks (USTs) on Indian Lands	0.25	0
LDS	Land Disposal Sites	0.5	0
LUR	Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions	0.5	0
LUST	Leaking Underground Fuel Tank Reports	0.5	0
RESP	State Response Sites	1	0
SCH	School Property Evaluation Program Sites	1	0
SWAT	Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report	0.5	0
SWF	Solid Waste Information System (SWIS)	0.5	0
UST	Permitted Underground Storage Tank (UST) in GeoTracker	0.25	0
VCP	Voluntary Cleanup Program	0.5	0
CERS HAZ	California Environmental Reporting System (CERS) hazardous Waste Sites	0.25	1
EMISSIONS	Toxic Pollutant Emission Facilities	.25	3
SANBERN CUPA	San Bernardino County – CUPA List	0.25	2

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm.

The site is not listed in the regulatory databases.

The following table summarizes information provided by the database and/or gathered by this office for identified facilities within 500 feet radii of the site. Facilities within 405 feet of the site are listed in order of proximity to the site. Additional discussion for selected facilities follows the summary table.

Listed Facilities

Facility Name And Location	Estimated Distance / Direction/Gradient	Database Listings	Is a REC, CREC, or HREC to the Site
Centurylink	405 feet / South of Plot 1 / Cross-gradient	CERS HAZ	Not a REC, discussed below
Level 3 Communications 19408 Koala Road		SANBERN CUPA	

19408 Koala Road

A telecommunications facility; Centurylink and Level 3 Communications, located approximately 405 feet to the south of Plot 1 and in a topographic cross-gradient position relative to the site, is listed in the CERS HAZ and SAN BERN CUPA regulatory databases. Based on a review of the listings, this facility is permitted with the San Bernardino County Fire Department for "hazardous materials 1-3 chemicals" and the status of the permit is listed as active. The type of hazardous materials stored or generated were not reported. Based on the facility's regulatory status, cross-gradient position relative to the site, and anticipated depth to groundwater in the site vicinity, the Centurylink and Level 3 Communications facility does not represent a REC to the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed four facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	**Response**
San Bernardino County Department of Environmental Health (SBCDEH) / Online form sent by e-mail EHS.CustomerService@dph.sbcounty.gov	On November 21, 2019 Terracon received a response from Jeanne Hammer, Office Assistant III with the SBCDEH stating records were not found for the site address.
Department of Toxic Substances Control / by e-mail pubreqact@dtsc.ca.gov	On November 13, 2019 Terracon received a response from Choua Her, Regional Records Coordinator with the DTSC stating records were not found for the site address.
Adelanto City Clerk (ACC) / via portal https://adelanto.nextrequest.com/requests/new	At the issuance of this report, a response has not been received.
Mojave Desert Air Pollution Control District (MDAPCD) / Online Form by email Jjochim@mdaqmd.ca.gov	At the issuance of this report, a response has not been received.
Lahontan Regional Water Quality Control Board (LRWQCB) / by e-mail lahontan@waterboards.ca.gov	At the issuance of this report, a response has not been received. In addition, Terracon researched on-line at the State Water Resource Control Board – Geotracker database and records were not identified for the site.

4.3 Local Area Knowledge

Based on a review of the California Department of Conservation Division of Oil, Gas & Geothermal Well Finder website (https://maps.conservation.ca.gov/doggr/wellfinder), there are no oil or gas production wells located at the site or surrounding areas.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Jennifer S. Van and Meg Haile
Reconnaissance Date	November 26, 2019
Weather Conditions	Sunny 66°F
Site Contact/Title	N/A

5.2 Overview of Current Site Occupants

The site consists of three non-contiguous plots of undeveloped land with unimproved roads totaling approximately 63.48 acres. The site is divided into three plots identified as Plot 1, Plot 2, and Plot 3. Plot 1 is located approximately 1,350 feet north of El Mirage Road and 50 feet west of Koala Road, Plot 2 is located approximately 1,350 feet north of El Mirage Road and 220 feet west of Raccoon Avenue and Plot three is located approximately 1,350 feet north of El Mirage Road and 30 feet east of Raccoon Avenue in Adelanto, San Bernardino County, California (San Bernardino County Accessor Parcel Number (APNs): 045811310, 045811312, 045937154 and 045937153).

5.3 Overview of Current Site Operations

The site consists of undeveloped land and was unoccupied at the time of the site reconnaissance.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an "X") are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint booths	
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	
	Pesticide/herbicide production or storage	
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS or SDS	

Category	Item or Feature	Observed or Identified
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	X
	Surface water discoloration, odor, sheen, and/or free-floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wastewater lagoons	
	Wells	

Releases or Potential Releases

Trash, debris and/or other waste materials

During the site reconnaissance, Terracon observed approximately 30 cubic yards of miscellaneous wastes, including tires, furniture, household wastes, and clothes on the northeastern corner of Plot 1, along the western boundary of Plot 2, and in the central portion of Plot 3. Leakage, spills or releases from these materials were not observed. Based on site observations the rubber tires, furniture and household trash do not constitute a REC on the site.

Construction/demolition debris and/or dumped fill dirt

During the site reconnaissance, Terracon observed approximately 5 cubic yards of construction debris, including concrete, wood and other construction debris on the northeastern corner of Plot 1. Leakage, spills or releases from these materials were not observed. Based on site observations the concrete, wood and other construction debris do not constitute a REC on the site.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	The property to the north of Plots 1, 2 and 3 consisted of undeveloped land.
East	The property to the east of Plot 3 consisted of undeveloped land and unimproved roads.
South	The property to the south of Plots 1, 2, and 3 consisted of undeveloped land followed by a telecommunications facility (8981 El Mirage Road) located to the south of Plot 1 of the site.
West	The property to the west of Plot 1 consisted of undeveloped land and utility easement.
Central Adjoining Between Plot 1 and 2	The central adjoining property between Plot 1 and 2 consisted of undeveloped land, Koala Road (unimproved road), Juan's Way (unimproved road) and an unnamed unimproved road.
Central Adjoining Between Plot 2 and 3	The central adjoining property between Plot 2 and 3 consisted of undeveloped land and Raccoon Avenue (unimproved road).

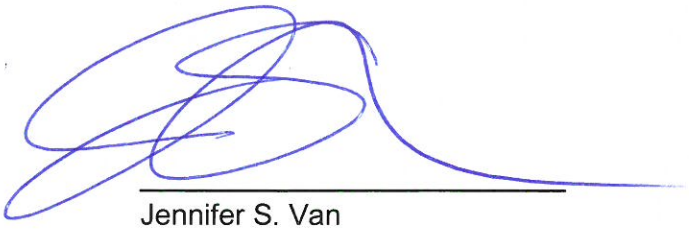
The telecommunications facility (8981 El Mirage Road) was identified in the regulatory databases and was previously discussed in Section 4.1. RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

Per the agreed scope of services specified in the proposal, additional services (e.g. sampling, lead in based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

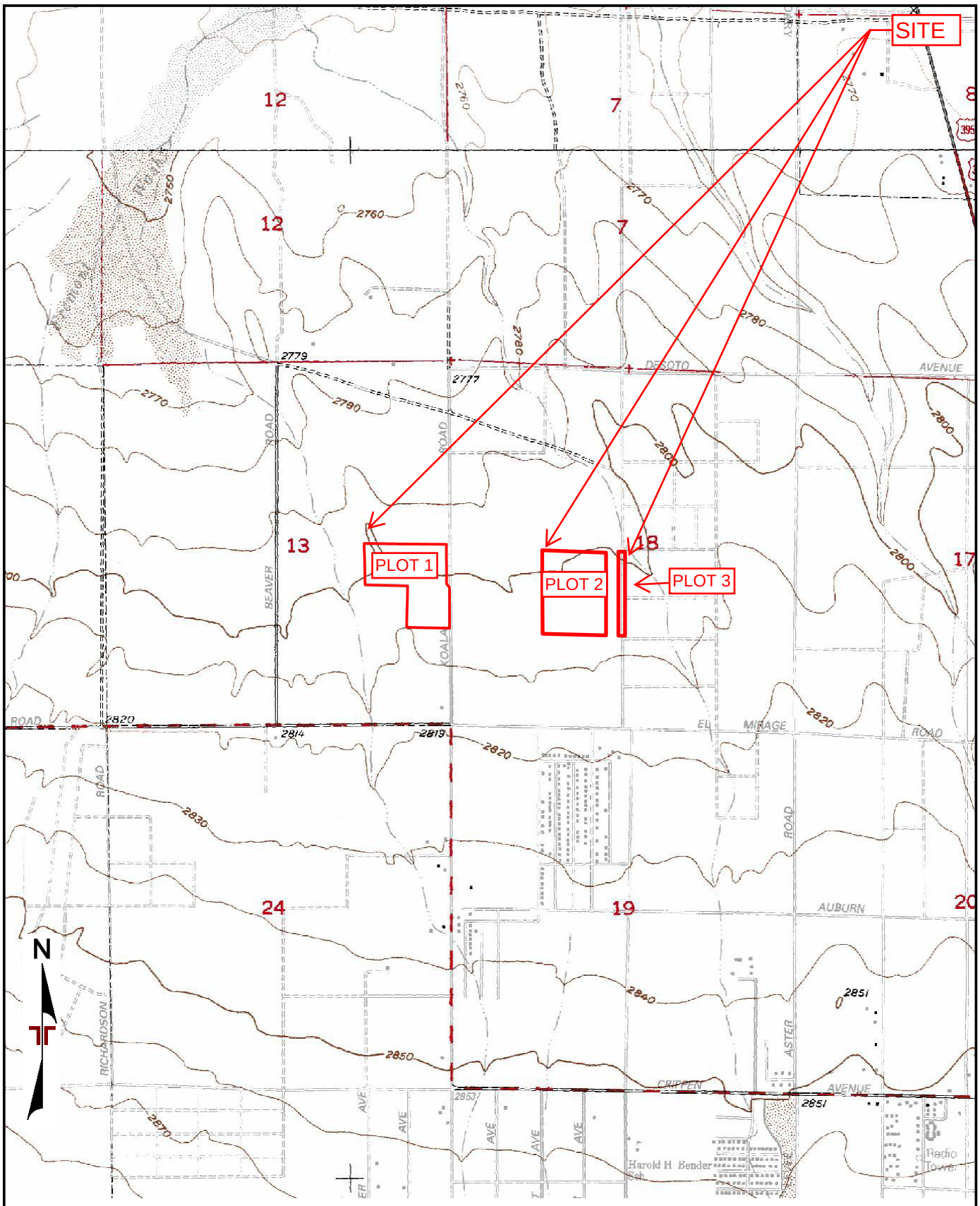
8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Jennifer S. Van
Environmental Group Manager

APPENDIX A
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBIT 2 – SITE DIAGRAM



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: VICTORVILLE NW, CA (1/1/1993) and ADELANTO, CA (1/1/1993).

Project Manager: JSV	Project No. 60197507	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780-6287	TOPOGRAPHIC MAP BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	EXHIBIT 1
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: NOV 2019			

Date: 12/12/19 N:\CAD\CALIFORNIA\2019\60197507-4.dwg Layout: site diagram Current Layer: 0



LEGEND:
- TELEPHONE MARKER
- T TRASH AND DEBRIS

THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

SOURCE: GOOGLE EARTH, 2019. IMAGERY DATE: 8/25/2018

Project Mngr:	JSV
Drawn By:	CDD
Checked By:	JSV
Approved By:	IRN

Project No.	60197507.5
Scale:	AS SHOWN
Date:	12/12/19

Terracon
Consulting Engineers and Scientists
1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780
PH. (949) 261-0051 FAX. (949) 261-6110

SITE DIAGRAM

BALDY MESA SOLAR PHASE II - SITE 4
APNS: 045811310, 045811312, 045937150 AND 045937153
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

EXHIBIT 2

APPENDIX B
SITE PHOTOGRAPHS



Photo #1 View of the southwestern corner of Plot 1 of the site looking east.



Photo #2 View of the northeastern corner of Plot 1 looking south.



Photo #3 View of southeastern corner of the Plot 1 looking west.



Photo #4 View of southwest corner of the Plot 2 looking east.



Photo #5 View of northwestern corner of the Plot 2 looking south.



Photo #6 View of northern portion of Plot 3 looking south.



Photo #7 View of trash and debris located on the northeastern portion of Plot 1 of the site.



Photo #8 View of underground telephone cable marker located on the eastern boundary of Plot 1.



Photo #9 View of trash along western boundary of the Plot 3.



Photo #10 View of furniture, tires, trash and debris on Plot 3 on the site.



Photo #11 View of the adjoining property to the north from the northeastern corner of the Plot 3 looking north.



Photo #12 View of adjoining property to the south from the southern portion Plot 3 looking south.



Photo #13 View of adjoining property to the south from western portion of Plot 1.



Photo #14 View of the adjoining property to the west from the Plot 1.



Photo #15 View of adjoining property to the south from the southeastern portion of plot 1 looking south.



Photo #16 View of central adjoining property looking east from southeastern corner of Plot 1.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Client/User Required Questionnaire

Terracon

Person Completing Questionnaire	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Site Name	Baldy Mesa Solar - Phase II (5 sites)
Site Address	City of Adelanto, CA
Point of Contact for Access	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Access Restrictions or Special Site Requirements?	X No ___ Yes (If yes, please explain)
Confidentiality Requirements?	___ No X Yes (If yes, please explain) outlined in MSA
Current Site Owner	Name: Phone: Company: See Title Reports Email: -
Current Site Operator	Name: Phone: Company: See Title Reports Email: -
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Conditional use permit for development and operation of a photovoltaic solar utility plant.
Anticipated Future Site Use	Photovoltaic Solar Utility
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.

ASTM User Questionnaire

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___ Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___ Yes ___ Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___ Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___ Yes (If yes, explain below)

Comments or explanations:

None

Please return this form with the signed authorization to proceed. Proposal No. P60197507

ENVIRONMENTAL RISK INFORMATION SERVICES

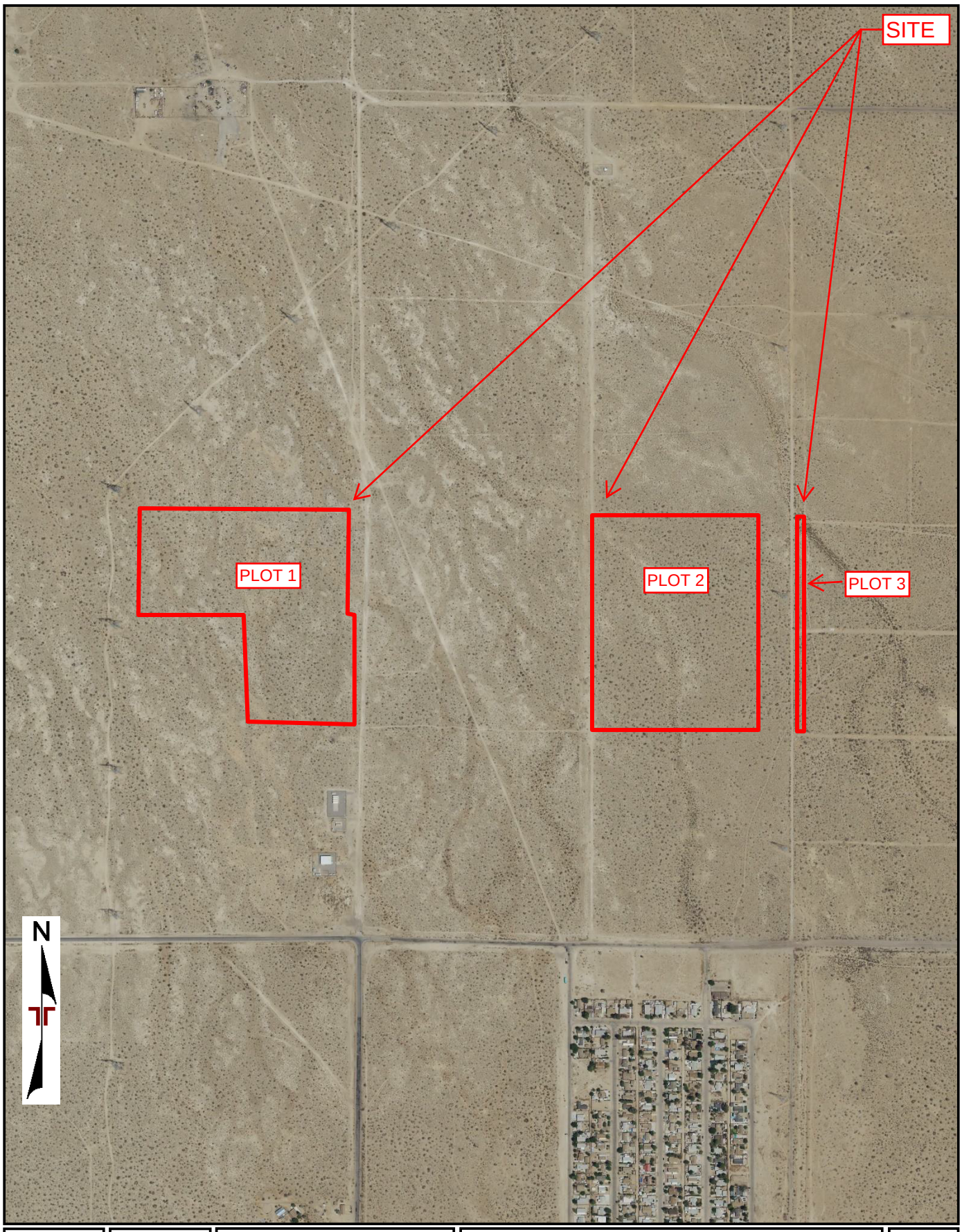
HISTORICAL AERIALS

Project Property:	Site 4 Site 4 Adelanto CA
Project No:	Site 4
Requested By:	Terracon
Order No:	20191113048
Date Completed:	November 19, 2019

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Date	Source	Source scale	Comment
2018	NAIP	1:8400	
2012	NAIP	1:8400	
2010	NAIP	1:8400	
2005	NAIP	1:8400	
1995	USGS	1:8400	
1985	NHAP	1:8400	
1978	USGS	1:8400	
1968	USGS	1:8400	
1959	ASCS	1:8400	
1952	USGS	1:8400	
1948	USAF	1:8400	



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Checked by: JSV	File Name: 20191113048	Tustin, California 92780	APNS: 045811310, 045811312, 045937150 AND 045937153
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix

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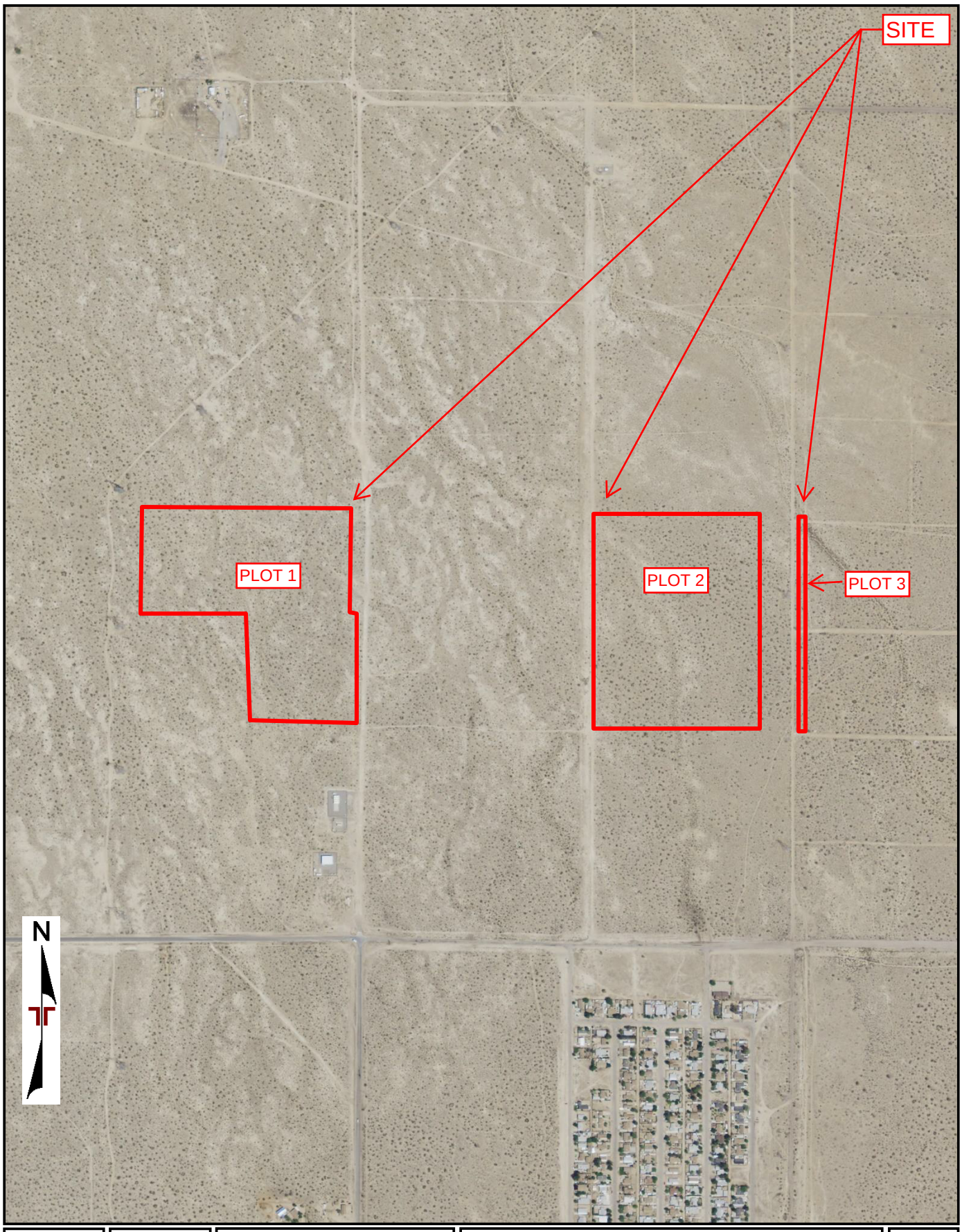

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Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

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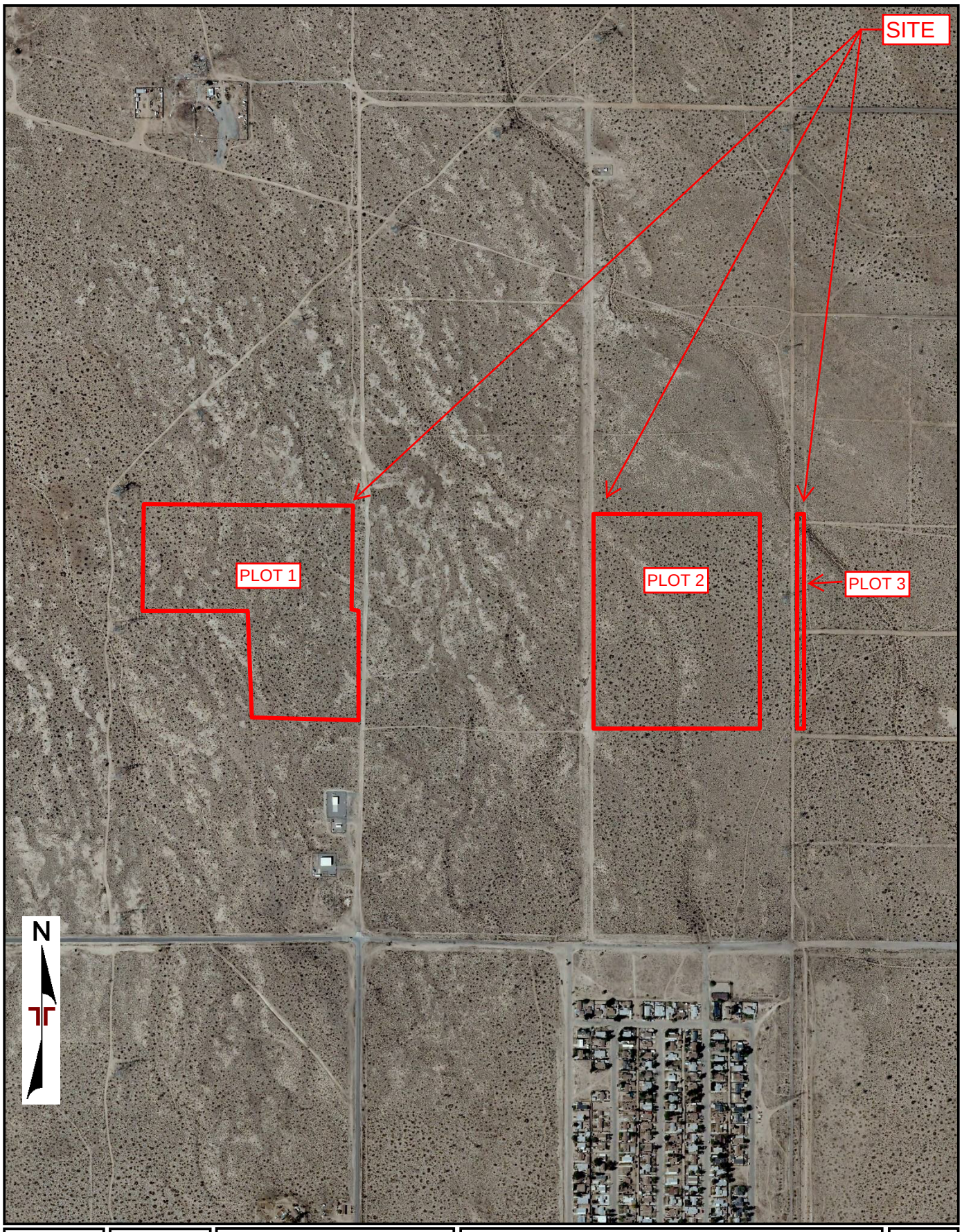

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Checked by: JSV	File Name: 20191113048	Tustin, California 92780	APNS: 045811310, 045811312, 045937150 AND 045937153
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

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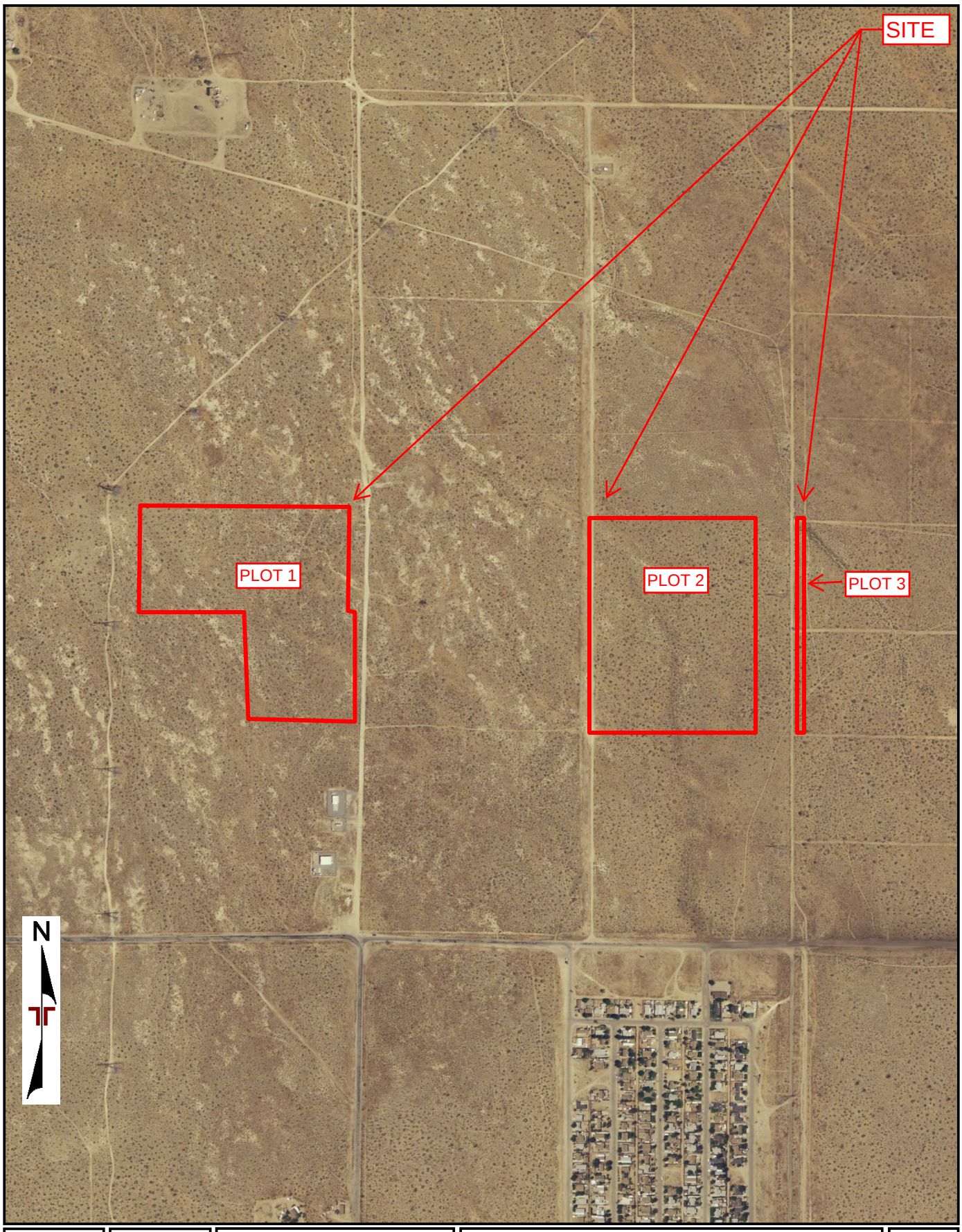

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Checked by: JSV	File Name: 20191113048	Tustin, California 92780	APNS: 045811310, 045811312, 045937150 AND 045937153
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

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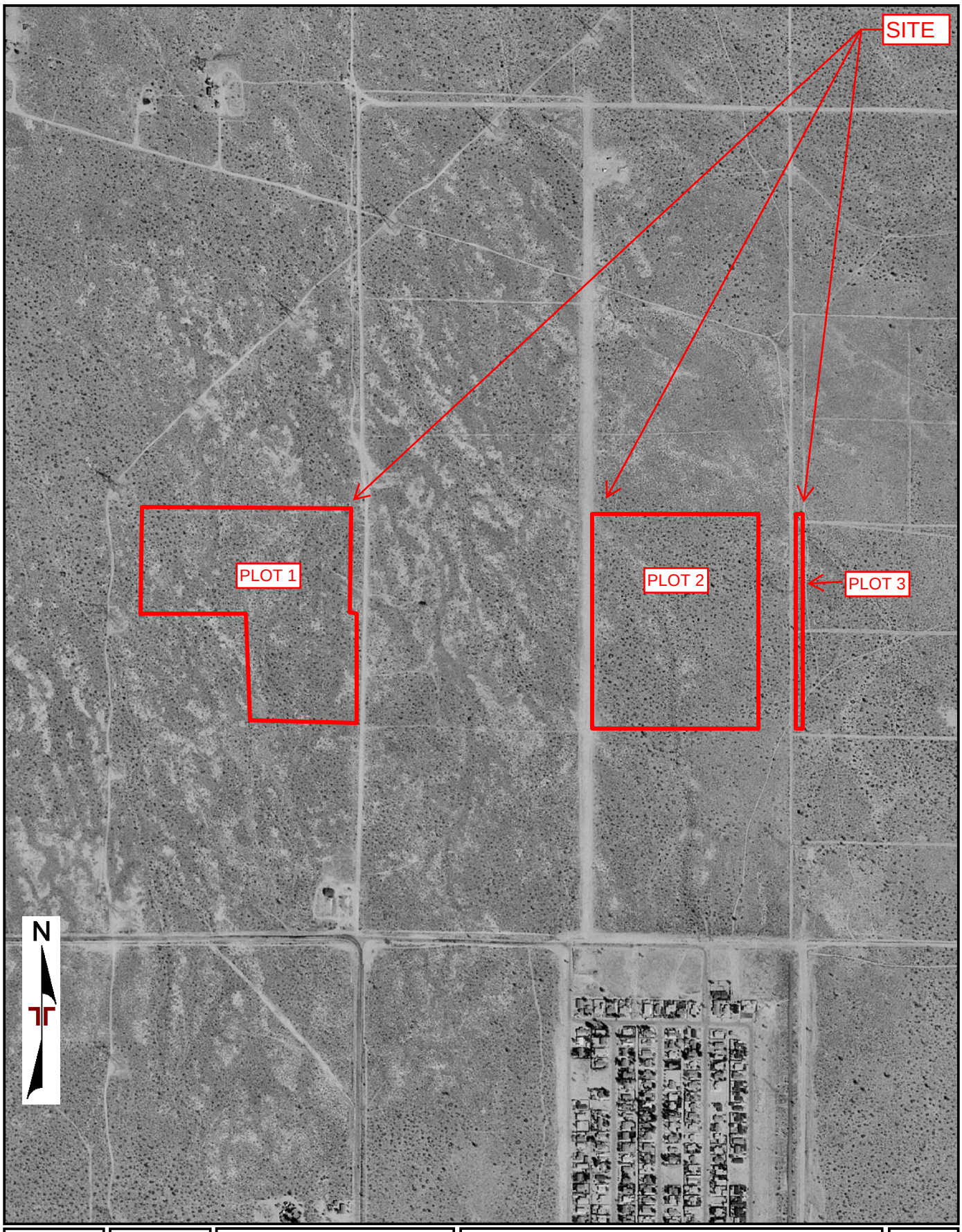

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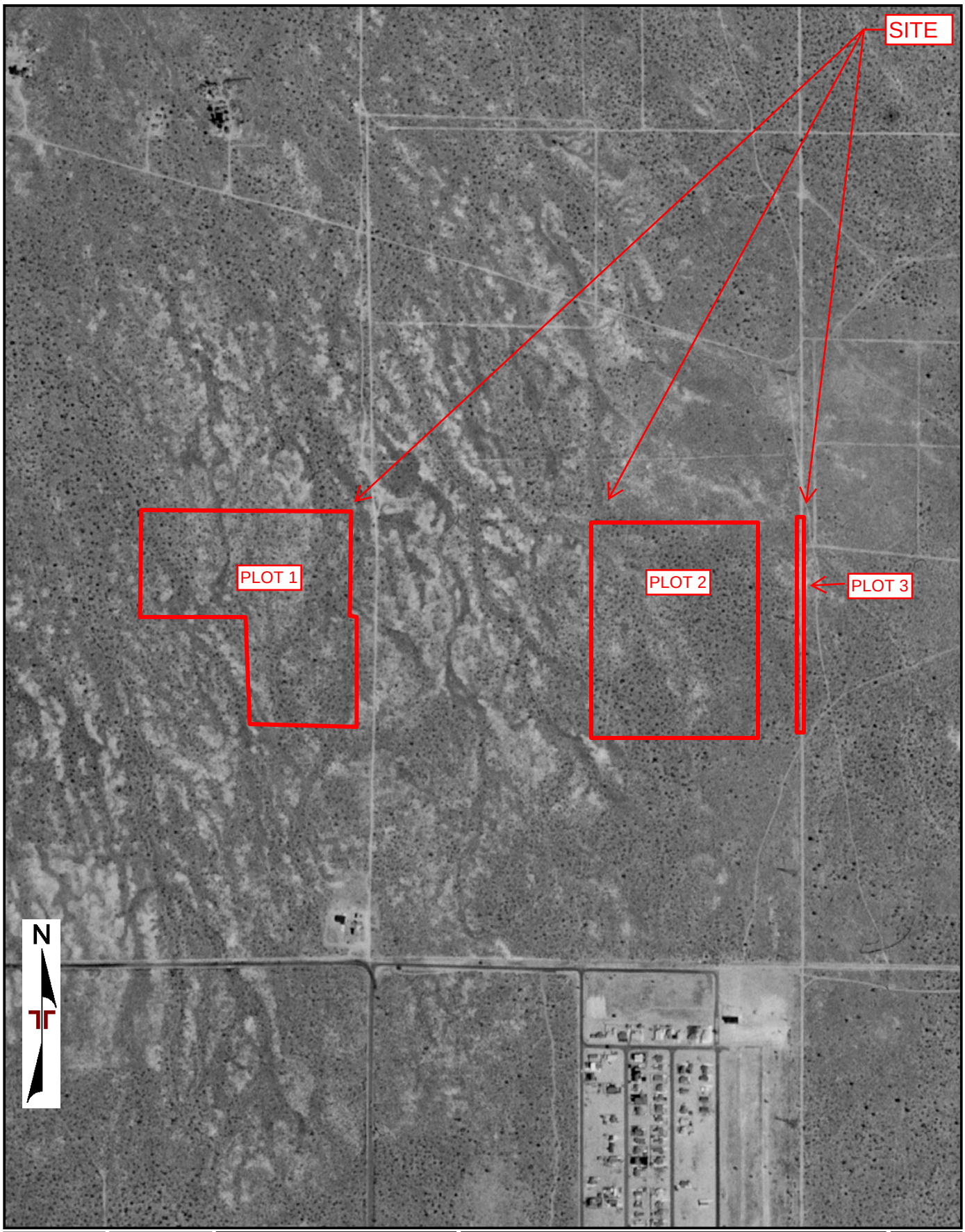
Checked by: JSV	File Name: 20191113048		
Approved by: ISN	Date: 2019-11-19		Appendix C



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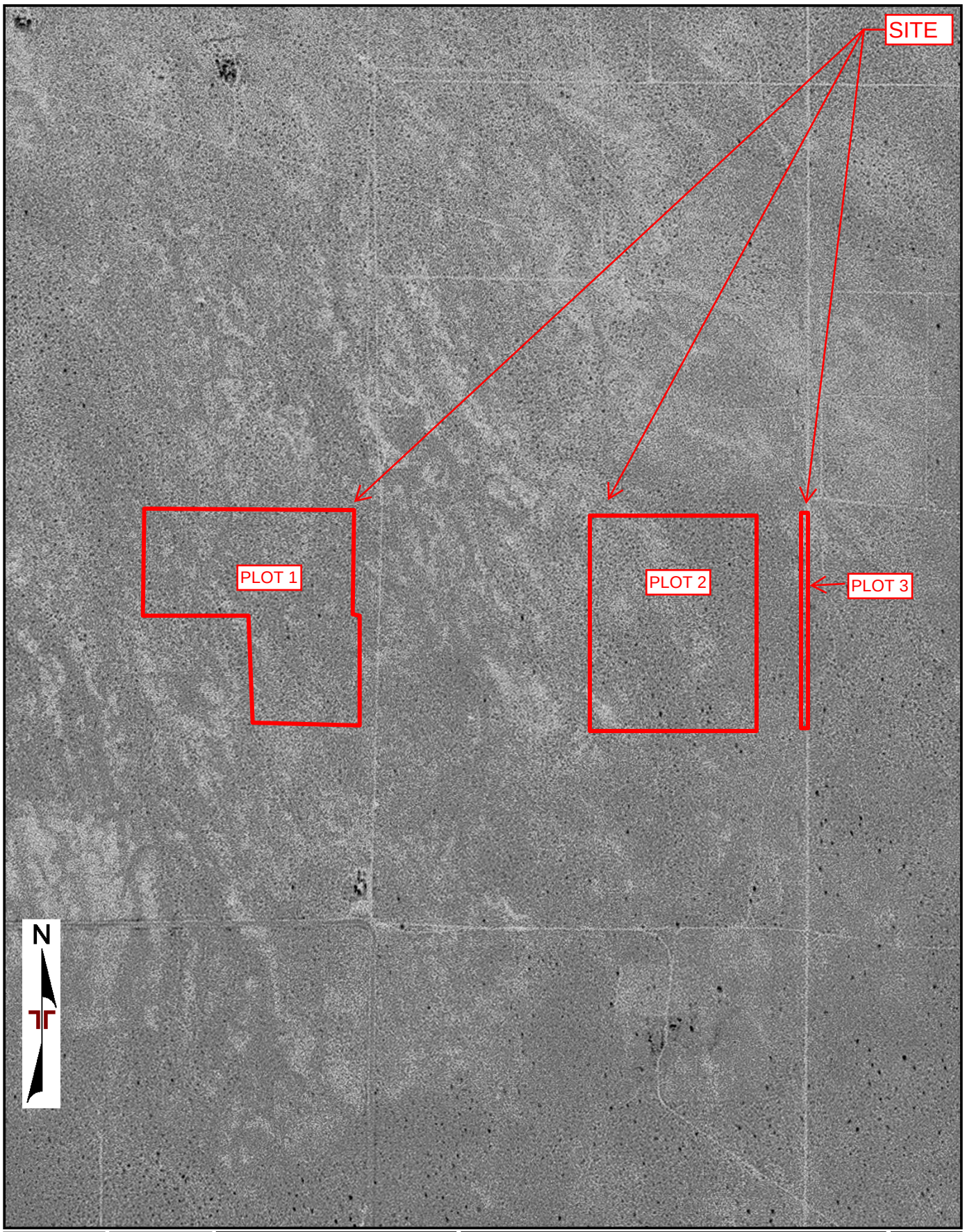

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Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

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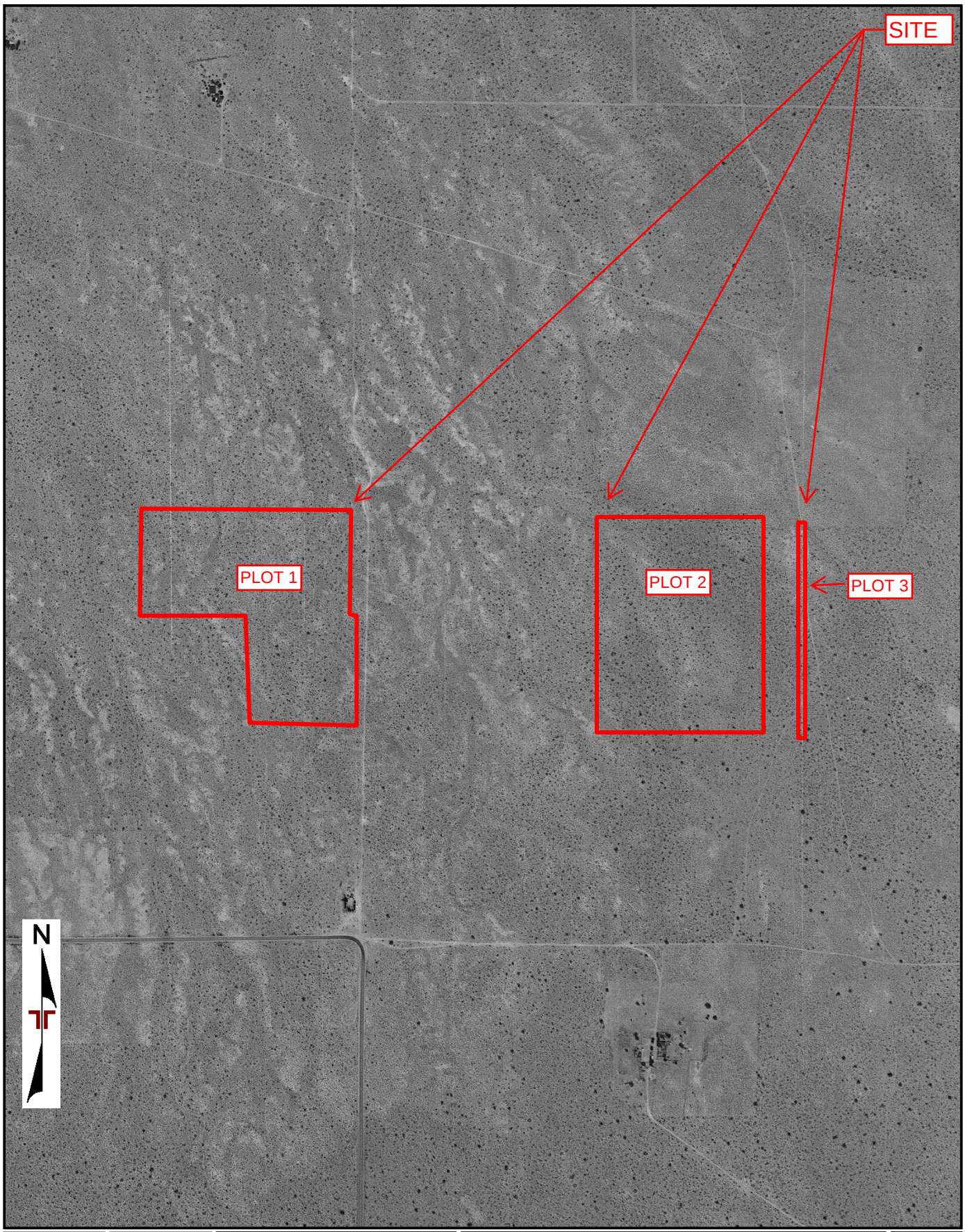

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Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix

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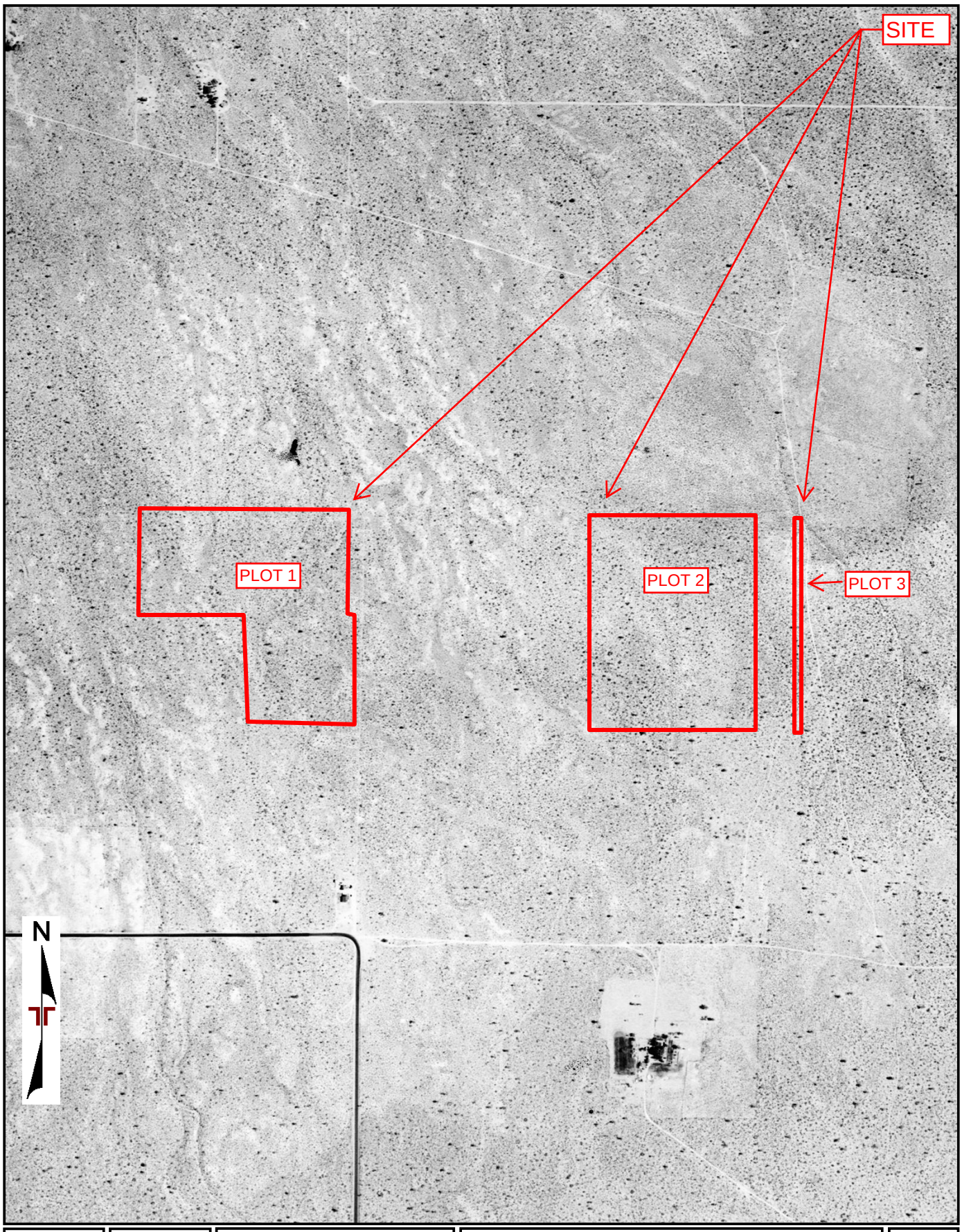

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Checked by: JSV	File Name: 20191113048	Tustin, California 92780	APNS: 045811310, 045811312, 045937150 AND 045937153
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

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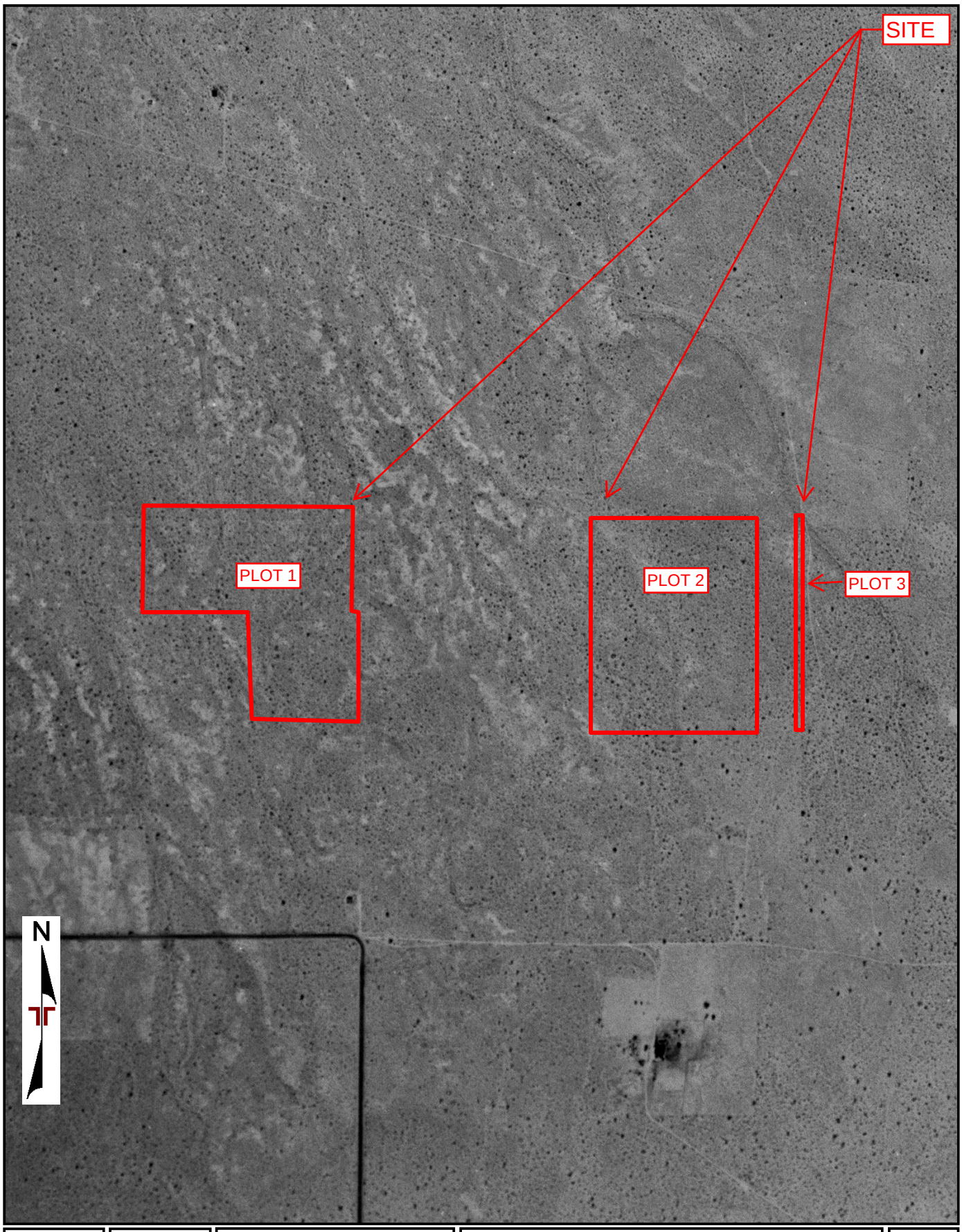

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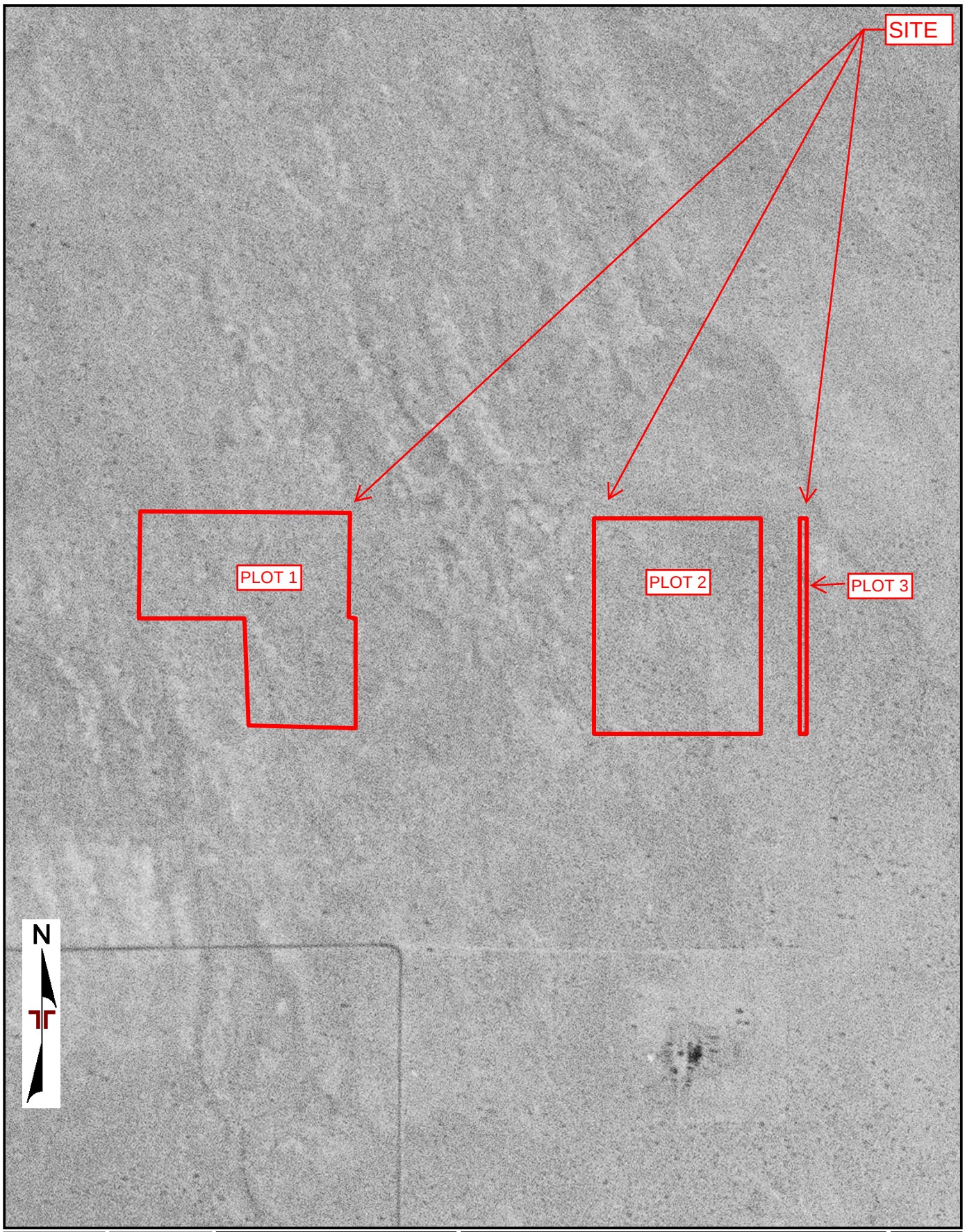

Project Manager: JSV	Project No. Site 4	Terracon	AERIAL PHOTO (1948-USAF)
Drawn by: MH	Scale: 1:8400	1421 Edinger Avenue Suite C	BALDY MESA SOLAR PHASE II - SITE 4
Checked by: JSV	File Name: 20191113048	Tustin, California 92780	APNS: 045811310, 045811312, 045937150 AND 045937153
Approved by: ISN	Date: 2019-11-19		ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Appendix C

ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

Project Property:	Site 4 Site 4 Adelanto CA
Project No:	Site 4
Requested By:	Terracon
Order No:	20191113048
Date Completed:	November 14, 2019

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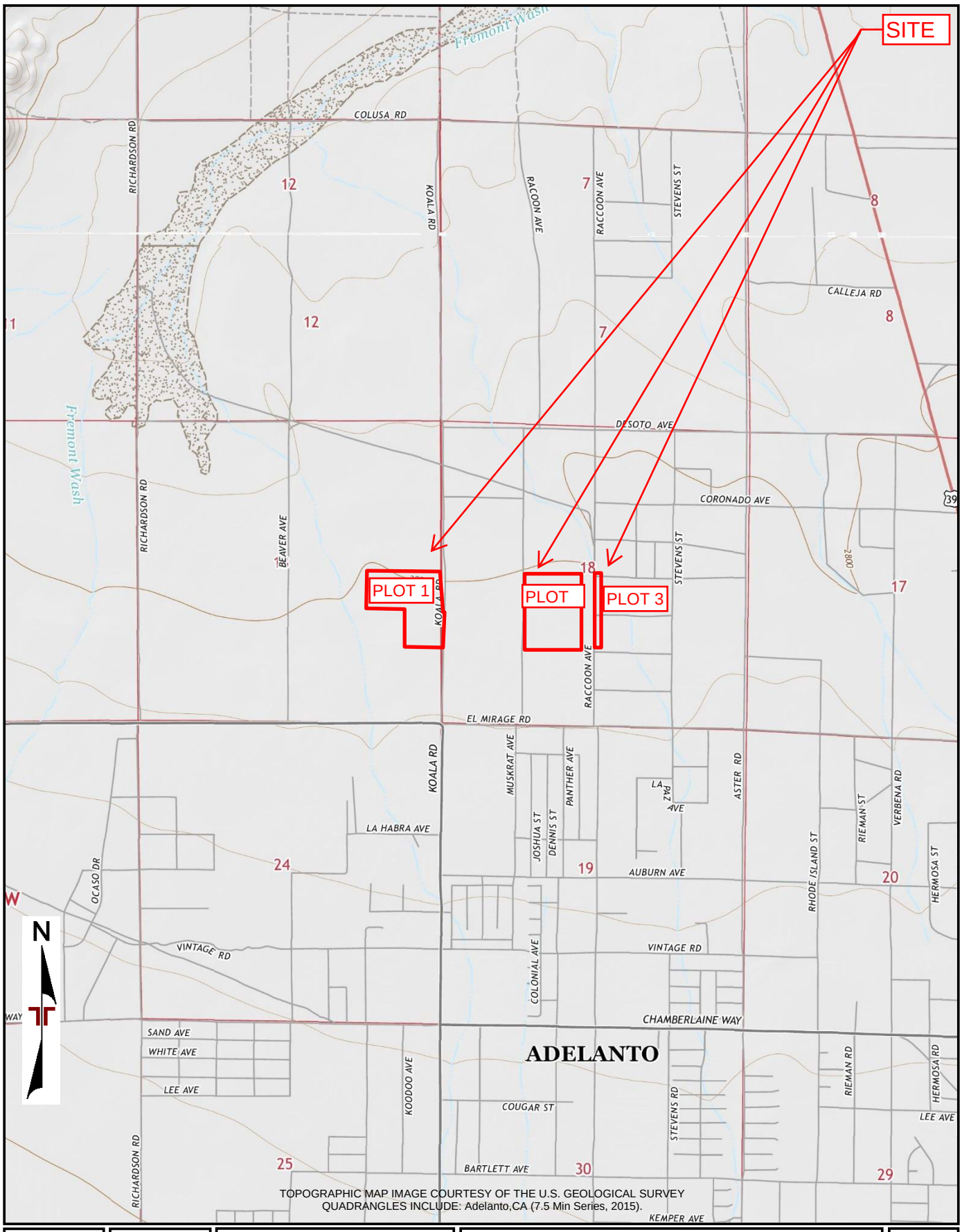
1.866.517.5204 | info@erisinfo.com | erisinfo.com

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

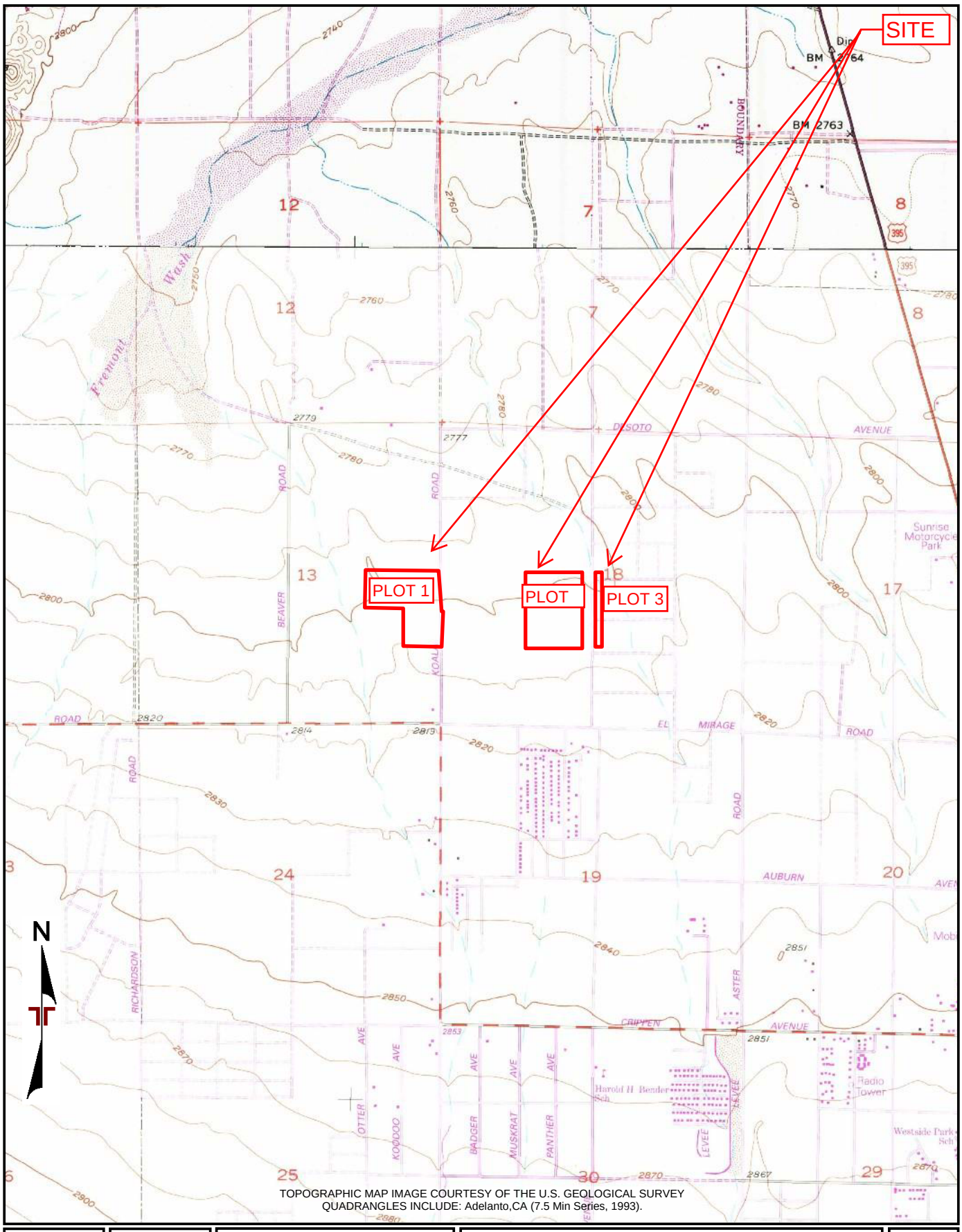
Year	Map Series
2015	7.5
1993	7.5
1980	7.5
1968	7.5
1956	7.5
1956	15

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS. This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.



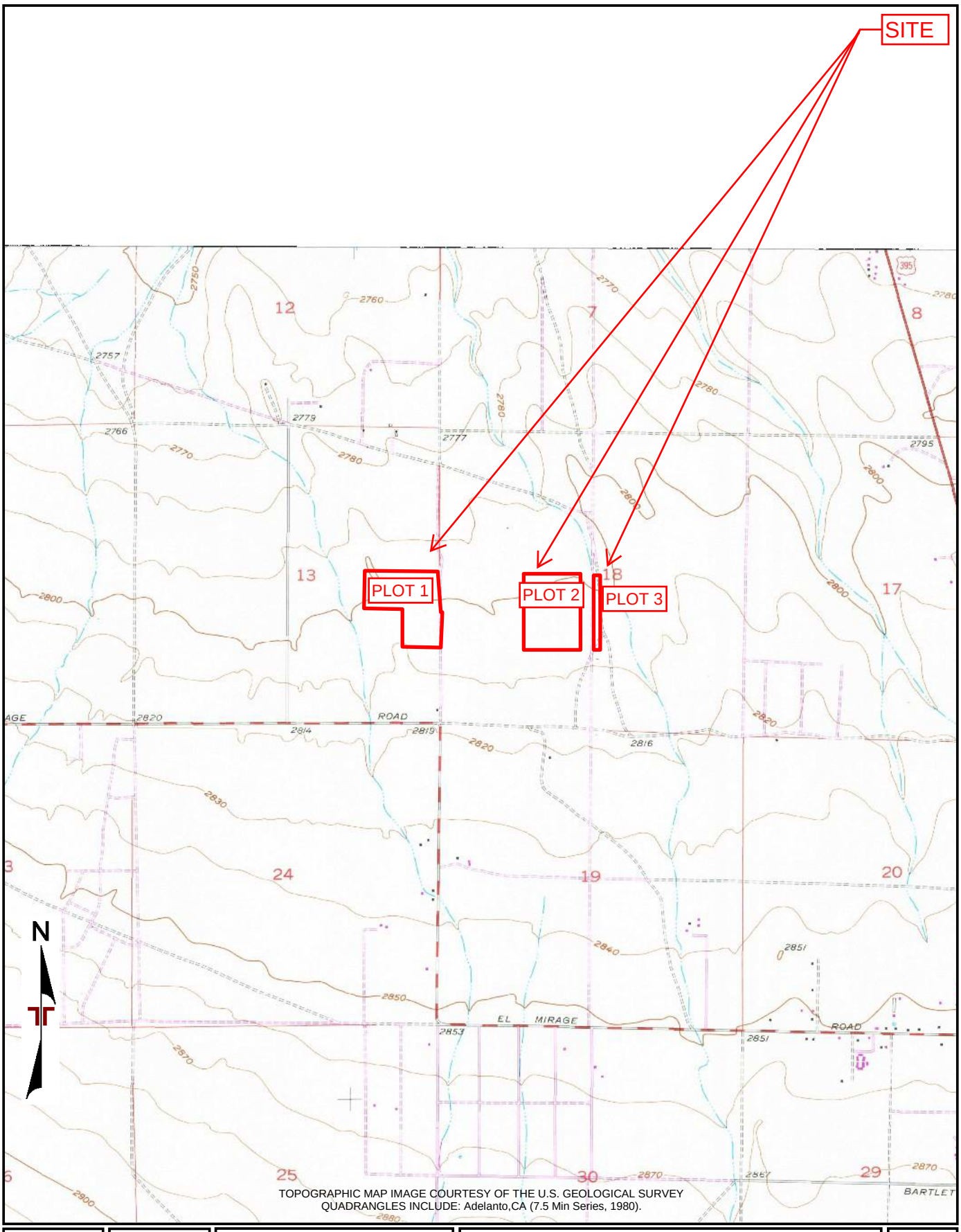
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 2015).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 4 Scale: 1"=2,000' File Name: 20191113048 Date: 2019-11-14	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (2015) BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



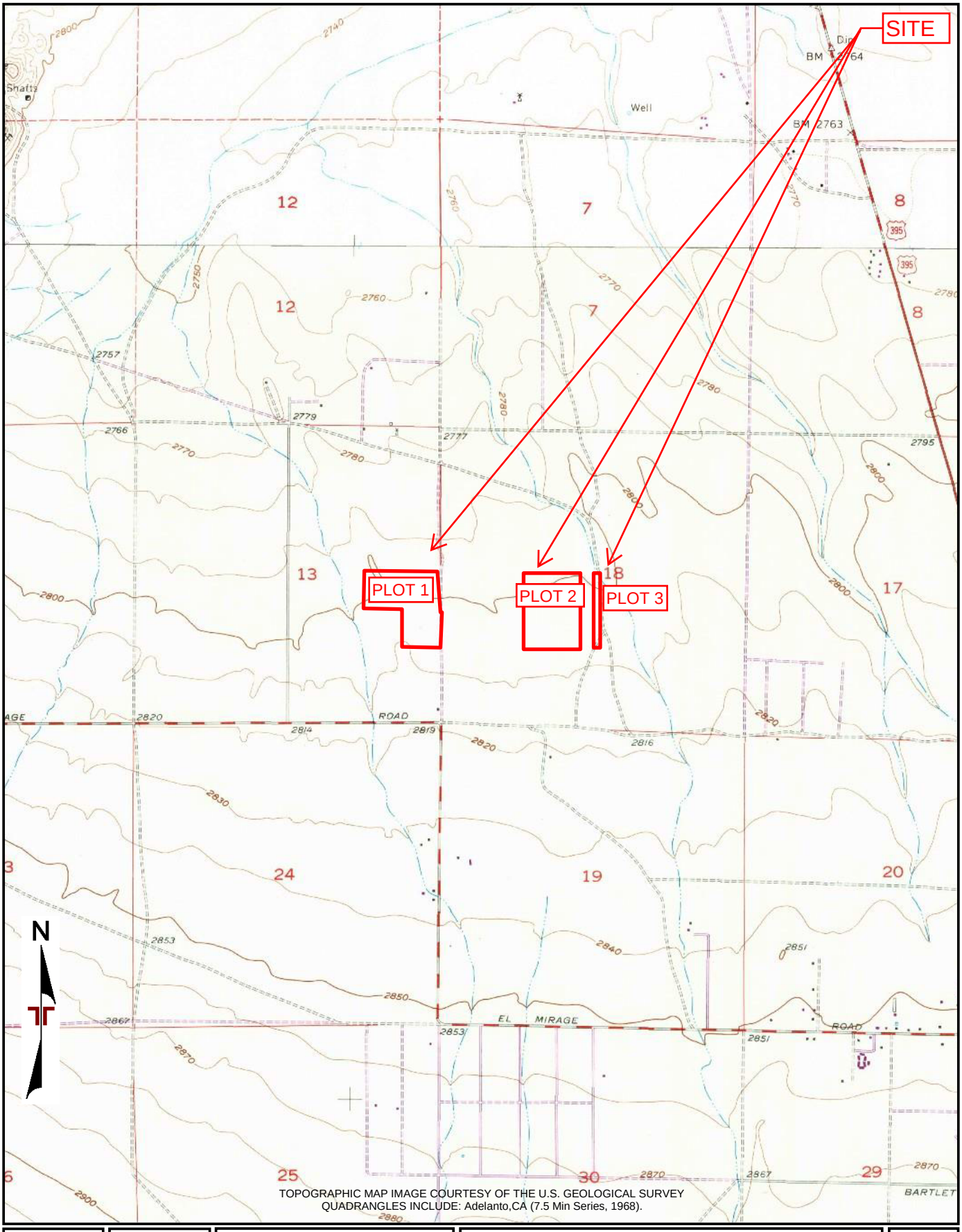
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1993).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 4 Scale: 1"=2,000' File Name: 20191113048 Date: 2019-11-14	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1993) BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



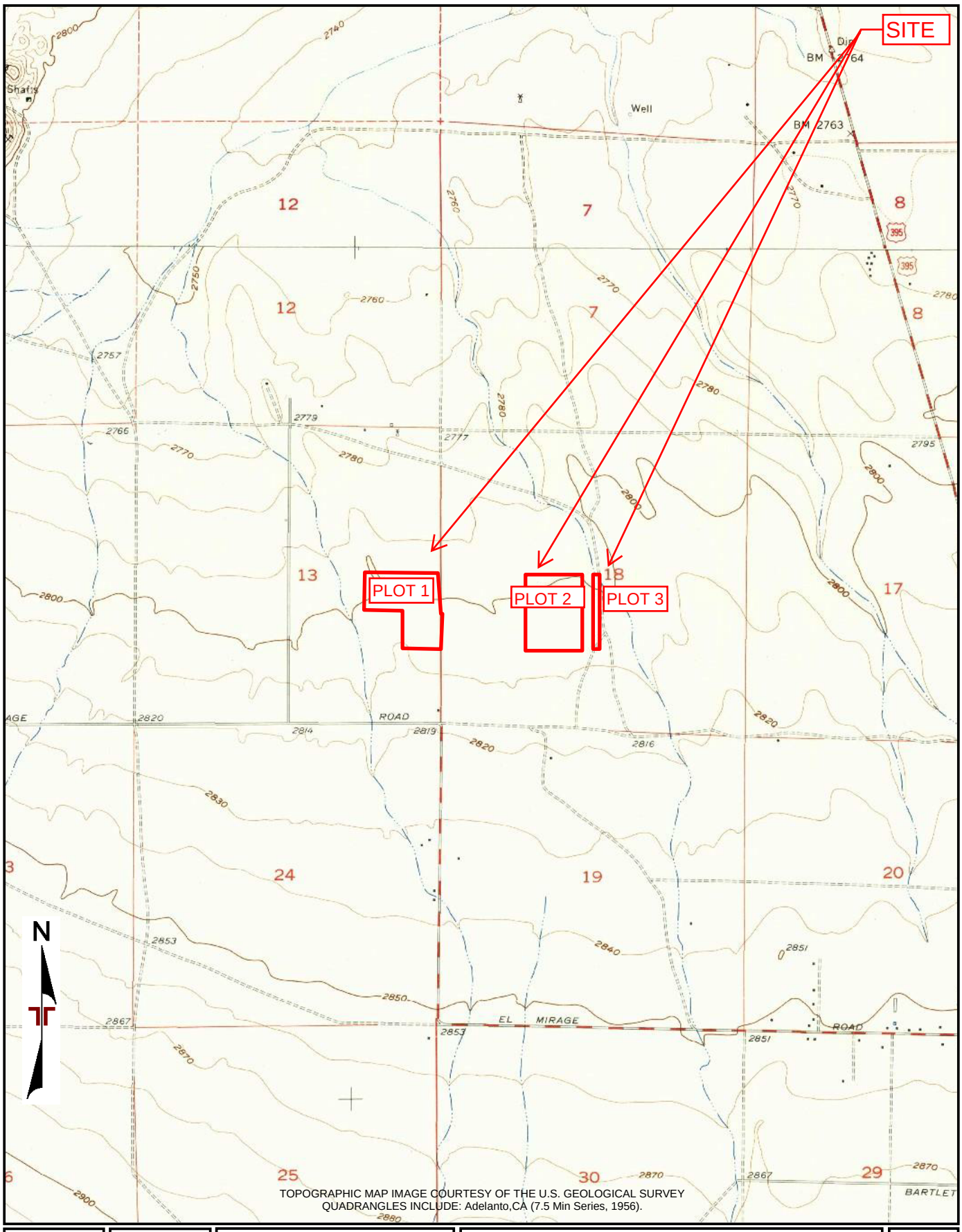
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1980).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 4 Scale: 1"=2,000' File Name: 20191113048 Date: 2019-11-14	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1980) BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



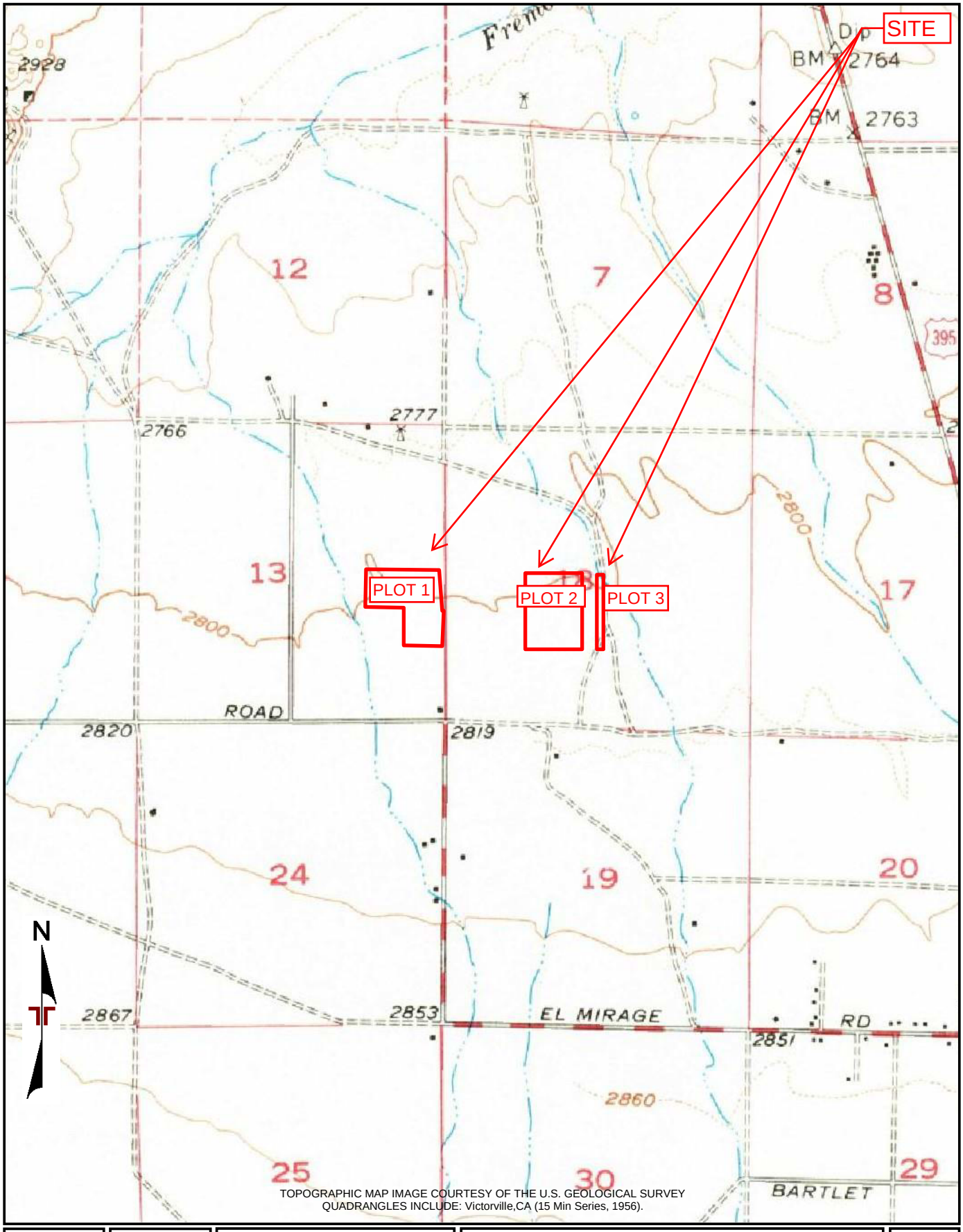
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1968).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 4 Scale: 1"=2,000' File Name: 20191113048 Date: 2019-11-14	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1968) BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1956).

Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: ISN	Project No. Site 4 Scale: 1"=2,000' File Name: 20191113048 Date: 2019-11-14	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956) BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville,CA (15 Min Series, 1956).

Project Manager: JSV	Project No. Site 4	Terracon 1421 Edinger Avenue Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956) BALDY MESA SOLAR PHASE II - SITE 4 APNS: 045811310, 045811312, 045937150 AND 045937153 ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: 20191113048			
Approved by: ISN	Date: 2019-11-14			

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Site 4 Site 4 Adelanto CA
Project No:	Site 4
Requested By:	Terracon
Order No:	20191113048
Date Completed:	November 13, 2019

Please note that no information was found for your site or adjacent properties.

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ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Site 4* *Site 4* *Adelanto, CA*
Project No:	*Site 4*
Requested By:	*Terracon*
Order No:	*20191113048*
Date Completed:	*November 26, 2019*

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November 26, 2019
RE: CITY DIRECTORY RESEARCH
Site 4
Site 4 Adelanto, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

All of Koala Rd
All of Nichols Rd
All of Raccoon Ave
All of Avalon Ave

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2006	DIGITAL BUSINESS DIRECTORY	
2002	DIGITAL BUSINESS DIRECTORY	
1998	DIGITAL BUSINESS DIRECTORY	
1988	HAINES	
1971	HAINES	

NO LISTING FOUND FOR THIS YEAR...

16124 **PRIMER WOOD PRODUCTS**...*Finish Carpentr*
16176 **PAGE MANUFACTURING INC**...*Truck Bodies*
16176 **PAGE MANUFACTURING INC**...*Truck Bodies-*
16276 **S E CLEMONS**...*Air Conditioning & Heati*
16276 **S E CLEMONS**...*Air Conditioning Contrac*
16378 **FLAVOR HOUSE INC**...*Nonclassified Estab*
16528 **J B MFR**...*Welding*
16528 **J B MFR**...*Machine Shops (mfrs)*
16600 **HERTZ**...*Truck Renting & Leasing*
16600 **HERTZ EQUIPMENT RENTAL**...*Contractorseq*
16600 **HERTZ EQUIPMENT RENTAL**...*Toolspneumati*
16600 **HERTZ EQUIPMENT RENTAL**...*Excavation Eq*
16600 **HERTZ EQUIPMENT RENTAL**...*Contractors-e*
16605 **HEE ENGINEERING**...*Photographerscommerc*
16605 **HEE ENGINEERING**...*Manufacturers*
16605 **HEE ENVIRONMENTAL ENGRNG LLC**...*Polluti*
16605 **HEE ENVIRONMENTAL ENGRNG LLC**...*Environ*
16630 **INTERNATIONAL CARBONIC INC**...*Vending M*
16630 **INTERNATIONAL CARBONIC INC**...*Soda Foun*
16630 **INTERNATIONAL CARBONIC INC**...*Beverage*
16630 **WILLTEC**...*Refrigerating Equip Supls &*
16655 **NATIONAL CONTAINER GROUP**...*Barrels & D*
17031 **CURVELINE INC**...*Nonclassified Establis*
17031 **MC ELROY METAL INC**...*Sheet Metal Fabri*
17031 **MC ELROY METAL INC**...*Mechanical Contra*
17031 **ROOFING MATERIALS**...*Roofing Contractor*
17129 **FUSION PACIFIC**...*Hot Tubs & Spas-whole*

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

NICHOLS RD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVE

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

AVALON AVE

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA RD

16176 **PAGE MANUFACTURING INC**...*Truck Bodies*
16176 **PAGE MANUFACTURING INC**...*Motor Vehicle*
16256 **WESTERN WATER WORKS SUPPLY CO**...*Plumbi*
16276 **S E CLEMONS**...*Air Conditioning Contrac*
16276 **S E CLEMONS**...*Appliance Repair & Maint*
16276 **S E CLEMONS**...*Contractors*
16378 **FLAVOR HOUSE INC**...*Nonclassified Estab*
16528 **J B MFR**...*Machine Shops*
16600 **HERTZ EQUIPMENT RENTAL**...*Excavation Eq*
16600 **HERTZ EQUIPMENT RENTAL**...*Federal Gover*
16600 **HERTZ EQUIPMENT RENTAL**...*Other Machine*
16600 **HERTZ EQUIPMENT RENTAL**...*Contractors-e*
16600 **SHARP PROFILE LLC**...*Manufacturers*
16600 **SHARP PROFILE LLC**...*Plastics Material*
16605 **HEE ENGINEERING**...*All Other Misc Mfg*
16630 **INTERNATIONAL CARBONIC INC**...*Manufactu*
16630 **INTERNATIONAL CARBONIC INC**...*Industria*
16630 **INTERNATIONAL CARBONIC INC**...*Beverage*
16630 **WILLTEC**...*Wholesale Trade Agents & Bro*
16655 **NATIONAL CONTAINER GROUP**...*Recyclable*
17031 **MC ELROY METAL INC**...*Rolled Steel Shap*
17031 **ROOFING MATERIALS**...*Roofing Contrs*
17129 **FUSION PACIFIC**...*Sporting Goods Mercha*
19402 **LEVEL 3 COMMUNICATIONS**...*All Other Tel*

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

NICHOLS RD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVE

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

AVALON AVE

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA RD

16124 **PRIMER WOOD PRODUCTS**...*Finish Carpentr*
16176 **PAGE MANUFACTURING INC**...*Motor Vehicle*
16252 **MARVICS**...*Finish Carpentry Contrs*
16256 **SMITH, C W**...*Plastics Materials Mercha*
16276 **S E CLEMONS INC**...*Plumbing & Hvac Cont*
16378 **STALEY EQUIPMENT**...*Other Commercial &*
16402 **EMERY MATERIALS INC**...*Recyclable Mater*
16528 **J B MFG**...*Wholesale Trade Agents & Bro*
16600 **H D SUPPLY WATERWORKS LTD**...*Other Comm*
16600 **HERTZ EQUIPMENT RENTAL**...*Other Machine*
16605 **HEE ENGINEERING**...*Research & Developme*
16630 **INTERNATIONAL CARBONIC INC**...*Industria*
16655 **NATIONAL CONTAINER GROUP WEST**...*Other*
17031 **MC ELROY METAL INC**...*Rolled Steel Shap*
17031 **ROOFING MATERIALS**...*Roofing Contrs*
17129 **INCA PLASTICS**...*All Other Plastics Pro*

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

NICHOLS RD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVE

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

AVALON AVE

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA RD

16124 **PRIMER WOOD PRODUCTS**...*Finish Carpentr*
16176 **PAGE MANUFACTURING INC**...*Motor Vehicle*
16252 **MARVICS**...*Finish Carpentry Contrs*
16256 **SMITH, C W**...*Plastics Materials Mercha*
16276 **S E CLEMONS INC**...*Plumbing & Hvac Cont*
16378 **STALEY EQUIPMENT**...*Other Commercial &*
16402 **EMERY MATERIALS INC**...*Recyclable Mater*
16528 **J B MFG**...*Wholesale Trade Agents & Bro*
16600 **H D SUPPLY WATERWORKS LTD**...*Other Comm*
16600 **HERTZ EQUIPMENT RENTAL**...*Other Machine*
16605 **HEE ENGINEERING**...*Research & Developme*
16630 **INTERNATIONAL CARBONIC INC**...*Industria*
16655 **NATIONAL CONTAINER GROUP WEST**...*Other*
17031 **MC ELROY METAL INC**...*Rolled Steel Shap*
17031 **ROOFING MATERIALS**...*Roofing Contrs*
17129 **INCA PLASTICS**...*All Other Plastics Pro*

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

NICHOLS RD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVE

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

AVALON AVE

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA RD

16124 **PRIMER WOOD PRODUCTS**...
16176 **PAGE MANUFACTURING INC**...
16276 **S E CLEMONS INC**...*Sprinkler Contractor*
16528 **J B MFG**...*Truck And Tractor Truck Asse*
16600 **SYNERTECH**...
16630 **INTERNATIONAL CARBONIC INC**...*Heating E*
16655 **TRICO DRUM SALES INC**...*Metal Scrap And*
17031 **MC ELROY METAL INC**...
17031 **ROOFING MATERIALS**...
17129 **JOHN WESLEY INC**...
17129 **MEGA STEEL BUILDINGS**...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

NICHOLS RD

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVE

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

AVALON AVE

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

KOALA RD

16176 **PAGE MANUFACTURING INC**...*Motor Vehicle*
16276 **NOLEEN RACING**...*Motorcycles, Bicycles,*
16378 **SOLUTION BOATS**...*Boat Dealers<*
16528 **J B MANUFACTURER**...*Auto And Home Suppl*
16528 **J B MANUFACTURING**...*Auto And Home Supp*
16630 **INTERNATIONAL CARBONIC INC**...*Bottled A*
16655 **TIBBAN DESIGN**...*Painting And Paper Han*
17031 **MC ELROY METAL SERVICE CENTER**...*Metals*
17031 **MCELROY METAL INC**...*Corrugated And Sol*
17031 **ROOFING MATERIALS**...*Corrugated And Sol*
17177 **BROWN AUTOMATION**...*Merchandising Machi*
17177 **SACHS ELECTRIC**...*Electrical Work*

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

NICHOLS RD

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVE

NO LISTING FOUND FOR THIS YEAR...

1988
SOURCE: HAINES

AVALON AVE

STREET NOT LISTED

1988
SOURCE: HAINES

KOALA RD

. **JOHNSON JOAN**
. **JOHNSON RUSS**
15929 **MIL WRICK EUGENE E**
18862 **SISNEROS DAVID T**
18864 **BROWN GEORGE A**
18972 **XXXX**
18985 **GUERRERO IGNACIO A**

1988
SOURCE: HAINES

NICHOLS RD

STREET NOT LISTED

1988
SOURCE: HAINES

RACCOON AVE

STREET NOT LISTED

1971
SOURCE: HAINES

AVALON AVE

STREET NOT LISTED

1971
SOURCE: HAINES

NICHOLS RD

STREET NOT LISTED

--- END REPORT ---

STREET NOT LISTED

stewart title
Real partners. Real possibilities.™

Shelly Sanchez
Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
Phone: (951) 276-2700
Fax: (866) 476-8953
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

Order No.: 382321
Your File No.:
Buyer/Borrower Name:
Seller Name: Drake and Joy Scheetz Revocable Trust

Property Address: Vacant Land, Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title of California, Inc. hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of March 8, 2019 at 8:00AM	

When replying, please contact: Shelly Sanchez, Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
(951) 276-2700

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☒ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

Drake J. Scheetz and Joy Anne M. Scheetz, Trustees of The Drake Joseph Scheetz and Joy Anne Marie Scheetz Revocable Trust effective March 25, 1999, subject to Items 8, 9, 12, 13, herein

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

Parcel 1:

The North 1/2 of the Northeast 1/4 of the Southeast 1/4 of Section 13, Township 6 North, Range 6 West, San Bernardino Base and Meridian, in the County of San Bernardino, State of California, according to the Official Plat of said land on file in the District Land Office, excepting therefrom the East 40 feet.

Parcel 2:

The East 40 feet of the North 1/2 of the Northeast 1/4 of the Southeast 1/4 of Section 13, Township 6 North, Range 6 West, San Bernardino Base and Meridian, in the County of San Bernardino, State of California, according to the Official Plat of said land on file in the District Land Office.

APN: 0458-113-10, 0458-113-10

(End of Legal Description)

THE MAP CONNECTED HEREWITH IS BEING PROVIDED AS A COURTESY AND FOR INFORMATIONAL PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. STEWART ASSUMES NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO THE MAPS NOR ANY MATTERS CONCERNING THE CONTENTS OF OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 - 2020.

B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California.

C. Taxes and/or assessments affecting the land, if any, for Community Facility Districts including Mello Roos Districts which may exist by virture of assessment maps or notices filed by said districts. Said taxes and/or assessments are typically collected with the County taxes; however, some districts may remove these taxes and/or assessment from the County taxes and assess and collect them seperately.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

3. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

4. Reservations and exceptions in the Patent by the United States of America, recorded in Book J page 369 of Patents..

5. An easement for pole lines, and rights incidental thereto, as set forth in a document recorded October 8, 1985 as Instrument No. 85-249232 of Official Records.

6. The fact that said land is included within a project area of the Victor Valley Redevelopment Project Area, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded August 22, 2005 as Instrument No. 05-618845 of Official Records.

   Document declaring modifications thereof recorded December 29, 2006 as Instrument No. 06-896250 of Official Records.

7. Deed of Trust to secure an indebtedness in the amount shown below, and any other obligations secured thereby:
   Amount : $325,000.00
   Dated : December 12, 2005
   Trustor : LS Land Investments, LLC, a Delaware limited liability company

Trustee : SLL Services, Inc., a California Corporation
Beneficiary : Drake J. Scheetz and Joy Anne M. Scheetz, Trustees of The Drake Joseph Scheetz and Joy Anne Marie Scheetz Revocable Trust effective March 25, 199
Recorded : January 13, 2006 as Instrument No. 06-29406 of Official Records

A purported assignment executed by LS Land Investments, LLC, a Delaware limited liability company, to Drake J. Scheetz and Joy Anne M. Scheetz, Trustees of the Drake Joseph Scheetz and Joy Anne Marie Scheetz Revocable Trust effective March 25, 1991 LSLI and recorded January 31, 2007 as Instrument No. 07-62016 of Official Records. Said assignment was executed by a person that was not the record holder of the beneficial interest.

Substitution of Trustee and Full Reconveyance by LS Land Investments, LLC, a Delaware limited liability company, to SLL Services, Inc., a California corporation, recorded January 23, 2009 as Instrument No. 09-29616 of Official Records.

8. Any defect in or invalidity of the title to the estate or interest of the vestee herein, arising out of or occasioned by that certain Deed In Lieu of Foreclosure, LP High Desert Land Company LLC, a Delaware limited liability company, as grantor and Drake J. Scheetz and Joy Anne M. Scheetz, Trustees of The Drake Joseph Scheetz and Joy Anne Marie Scheetz Revocable Trust effective March 25, 1999, as grantee, recorded January 23, 2009 as Instrument No. 09-29615 of Official Records. This Company will require proof of the validity of said document prior to the issuance of any policy of title insurance.

   Affects Item 7 herein

9. Any interest of LP High Desert Land Company LLC, as to Parcel 2, whose possible interest is disclosed by reason of their being shown as assessed owner(s) of said land on the county secured tax rolls.

10. Lack of a right of access to and from the land.

11. An Abstract of judgment recorded January 6, 2010 as Instrument No. 10-05004 of Official Records
    Court : Superior Court of California, County of San Bernardino
    Case No. : CIVVS805891
    Entry Date : April 1, 2009
    Debtor : Drake J. Sheetz
    Creditor : Capital One Bank (USA), N.A.
    Amount : $4,917.28 and any other amounts due thereunder.
    Filing attorney's information:
    Name : Brian Adkins, CIR Law Office, LLP
    Address : 8665 Gibbs Dr Suite 150, San Diego, CA 92123
    Phone Number : 800-496-8909

12. Any invalidity or defect in the title of the vestees in the event that the trust referred to in the vesting portion of Schedule A is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

13. If title is to be insured in the trustee(s) of a trust or their act is to be insured, we will require a full copy of the trust agreement and any amendments thereto. In certain situations the Company may accept a Trust Certificate, pursuant to Section 18100.5 of the California Probate Code in lieu of the trust agreement. The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

(End of Exceptions)

NOTES AND REQUIREMENTS

A. Basic Rate

B. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
1st Installment: $868.04
2nd Installment: $868.02
Parcel No.: 0458-113-10-0
Code Area: 014002

D. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
1st Installment: $No Tax Due
2nd Installment: $No Tax Due
Parcel No.: 0458-113-11-0
Code Area: none shown

LP High Desert Land Company

Affects Parcel 2

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title of California, Inc. via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title of California, Inc.. Stewart Title of California, Inc. may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title of California, Inc. shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title of California, Inc.. Such benefits shall be deemed additional compensation to Stewart Title of California, Inc. for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 382321
Escrow No.: 382321

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

Parcel 1:

The North 1/2 of the Northeast 1/4 of the Southeast 1/4 of Section 13, Township 6 North, Range 6 West, San Bernardino Base and Meridian, in the County of San Bernardino, State of California, according to the Official Plat of said land on file in the District Land Office, excepting therefrom the East 40 feet.

Parcel 2:

The East 40 feet of the North 1/2 of the Northeast 1/4 of the Southeast 1/4 of Section 13, Township 6 North, Range 6 West, San Bernardino Base and Meridian, in the County of San Bernardino, State of California, according to the Official Plat of said land on file in the District Land Office.

APN: 0458-113-10, 0458-113-10

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: March 20, 2019

File No.: 382321

Property: Vacant Land, Adelanto, CA 92301

From: Stewart Title of California, Inc.

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and . Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY – 1990
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (c) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records,
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i) the occupancy, use, or enjoyment of the Land;
   ii) the character, dimensions, or location of any improvement erected on the Land;
   iii) the subdivision of land; or
   iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

File No.: 382321

AVAILABLE DISCOUNTS DISCLOSURE STATEMENT

This is to give you notice that Stewart Title of California, Inc. (“Stewart Title”) is pleased to inform you that upon proper qualification, there are premium discounts available upon the purchase of title insurance covering improved property with a one to four family residential dwelling.

Such discounts apply to and include:

Property located within an area proclaimed a state or federal disaster area;

Property purchased from a foreclosing beneficiary or successful bidder at a foreclosure sale;

Property being refinanced.

Please talk with your escrow or title officer to determine your qualification for any of these discounts.

CERTIFICATION OF TRUST

(California Probate Code 18100.5)

IMPORTANT: THIS CERTIFICATION OF TRUST MUST BE FULLY COMPLETED

I/(We) _____

(Name of Trustee(s))

as Trustee(s) of the _____

(Name of Trust)

dated (the "Trust") am/are providing the information set forth below at the request of Stewart Title Guaranty Company, a Texas corporation, and its policy issuing agent , a California corporation (hereafter collectively called "Company").

WHEREAS, Company has been requested to issue a title insurance policy on the real property described in Schedule "A" of the Preliminary Report or Commitment issued under order number 382321; and

WHEREAS, Company has determined that information concerning the Trust is necessary to ascertain whether Company will be able to issue the requested policy of title insurance;

THEREFORE, acting in my/our capacity as Trustee(s) of the Trust, I/we hereby certify and confirm to Company that the information set forth below is accurate and correct.

1. The Trust identification number (SSN or employer Tax ID) is: _____

2. The Settlor(s) of the Trust is/are:
   _____
   _____

3. The currently active Trustee(s) of the Trust is/are:
   _____
   _____

4. As set out in the Trust, the powers of the Trustee(s) include: (check all that apply)
   ____ The power to sell, convey and grant trust property.
   ____ The power to hypothecate (borrow money and encumber/lien trust property).

5. As set out in the Trust, are all currently active Trustee(s) required to execute documents when exercising the powers set forth above?
   (circle one) YES NO

6. As set out in the Trust, the Trust is: (check the appropriate box) ____ Revocable ____ Irrevocable

7. If the Trust is revocable, the name(s) of the person(s) identified as having power to revoke the Trust is/are:
   _____

8. The Trust and the individual named Settlor(s) do not have any liens or money judgments pending, filed and/or recorded against them.

9. The Trust and/or the individually named Settlor(s) are not aware of any threatened, pending, or filed lawsuits nor have it/they settled any lawsuits within the three (3) calendar years immediately preceding the signing of this Certification.

10. By signing below, the undersigned Trustee(s) affirm that the Trust is in full force and effect and has not been revoked or terminated; in addition, the Trust has not been modified or amended in any manner which would cause the representations set forth herein to be incorrect.

11. Is this Certification of Trust is being executed by all currently active Trustees of the Trust? (circle one) YES NO
    If "NO," please explain: _____

12. Are there any living persons or entities named as Trustee in the Trust who are not "currently active Trustees"? (circle one) YES NO If "YES," identify by name and explain why: _____
_____

13. The undersigned Trustees acknowledge and understand that Company may require additional information, including copies and/or excerpts of the Trust and any amendments, when necessary, in order to make an insurance determination.

14. The undersigned Trustee(s) state to the best of his/her/their knowledge, that there are no claims, challenges of any kind, and/or alleged causes of action, contesting or questioning the validity of the Trust or the Trustee(s) authority to act on behalf of the Trust.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS IN THIS CERTIFICATION BEFORE SIGNING. THE TRUSTEE(S) HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION IS TRUE AND CORRECT. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS CERTIFICATION, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING. THE TRUSTEE(S) UNDERSTAND THAT COMPANY MAY DECIDE NOT TO PROVIDE THE REQUESTED TITLE INSURANCE DESPITE THE INFORMATION AND AFFIRMATIONS CONTAINED HEREIN.

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California }
}SS.
County of _____ }

On _____ before me, _____ , Notary Public, personally appeared _____
who proved to be on the basis of satisfactory evidence to be the person(s), whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (this area for official notarial seal)

stewart title

Real partners. Real possibilities.™

Stewart Title of California, Inc.
11870 Pierce Street, Ste 100
Riverside, CA 92505
Phone:
Fax:

IF YOU'RE PAYING FOR THE OWNER'S TITLE INSURANCE POLICY PREMIUM, PLEASE COMPLETE AND SUBMIT THIS FORM TO DETERMINE ELIGIBILITY FOR ONE OF THE STATED SPECIAL DISCOUNTS

STGC TITLE PREMIUM DISCOUNT APPLICATION AND CONFIRMATION OF ELIGIBILITY

Order Number: 382321

Property: Vacant Land, Adelanto, CA 92301

APN: 0458-113-10, 0458-113-10

In connection with the request of the Undersigned ("Applicant") for the preparation and issuance of title insurance, Applicant provides this completed STGC Title Premium Discount Application and Confirmation of Eligibility ("Request Form") for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company, and its policy issuing agent Stewart Title of California, Inc. (collectively hereafter referred to as "Stewart Title") in connection with pricing the owner's title insurance premium for the owner-occupied, 1-4 family residence in the above referenced transaction:

1. Applicant understands that Stewart Title has available for qualifying requestors a 10% discount on the title insurance premium charged under certain circumstances; however, all endorsement fees and other charges are not discounted.
2. Applicant understands that Stewart Title is only able to provide such discount if requested through providing this completed Request Form and is received by Stewart Title at least five (5) business days prior to recording of the transaction to which a discount is requested.
3. Applicant understands that Stewart Title prohibits combined discounts; accordingly, Stewart Title will provide this requested discount and disregard other applicable discounts, if any, when eligibility requirements for such discount are satisfied.
4. Applicant requests the following discount and affirms that Applicant meets the criteria and requirements set forth to qualify for such selected discount (SELECT ONLY ONE QUALIFYING DISCOUNT):

☐ Active duty military personnel discount – To qualify for an active duty military personnel discount: (1) the property being purchased is a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one of the undersigned purchaser(s) is a U.S. citizen, permanent resident or qualified alien and is engaged in full-time, active duty in the military on the date signed below.

☐ Senior citizen discount – To qualify for a senior citizen discount: (1) the property being purchased is a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one of the undersigned purchaser(s) is a U.S. citizen, permanent resident or qualified alien and is 65 years of age or older on the date signed below.

☐ First-time homebuyer discount – To qualify for a first-time homebuyer discount: (1) the property being purchased is a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one of the undersigned purchaser(s) is a U.S. citizen, permanent resident or qualified alien and has either never owned any property or, has not been an owner in a primary residence for the last three calendar years from the date signed below.

This Request Form is completed under penalty of perjury and is made for the purpose of inducing Stewart Title to provide the title premium discount, and the representations contained herein are material to such insurance coverage pricing. The undersigned hereby indemnifies and holds Stewart Title harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain to the extent any representation contained herein is incorrect. The undersigned understands that Stewart Title may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ AND COMPLETE THE STGC TITLE PREMIUM DISCOUNT REQUEST FORM ON THE PREVIOUS PAGE BEFORE SIGNING BELOW. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD CONTACT YOUR LOCAL STEWART TITLE PROFESSIONAL.

THE UNDERSIGNED DECLARES UNDER PENALTY OF PERJURY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.

Date: _____, 2019

_____ _____

_____ _____

OWNER'S AFFIDAVIT AND INDEMNITY

Order No.: 382321
Address/Location: Vacant Land, Adelanto, CA 92301
APN: 0458-113-10, 0458-113-10

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer STEWART TITLE GUARANTY COMPANY, and its policy issuing agent STEWART TITLE OF CALIFORNIA, INC. (collectively hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

6. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

7. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

8. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

9. Affiant is not aware of the existence of any of the following:
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.

j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.

With regard to 9a.-9j, except as follows:

_____

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance
_____	_____
_____	_____

12. There are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights on the Property, except the following: **(If none, please state "none")**

    _____

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

    _____

14. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____
Drake and Joy Scheetz Revocable Trust

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

Stewart Title Guaranty Company Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you request insurance-related services provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056**

Non-Order Search
Doc: SB:A 458-11

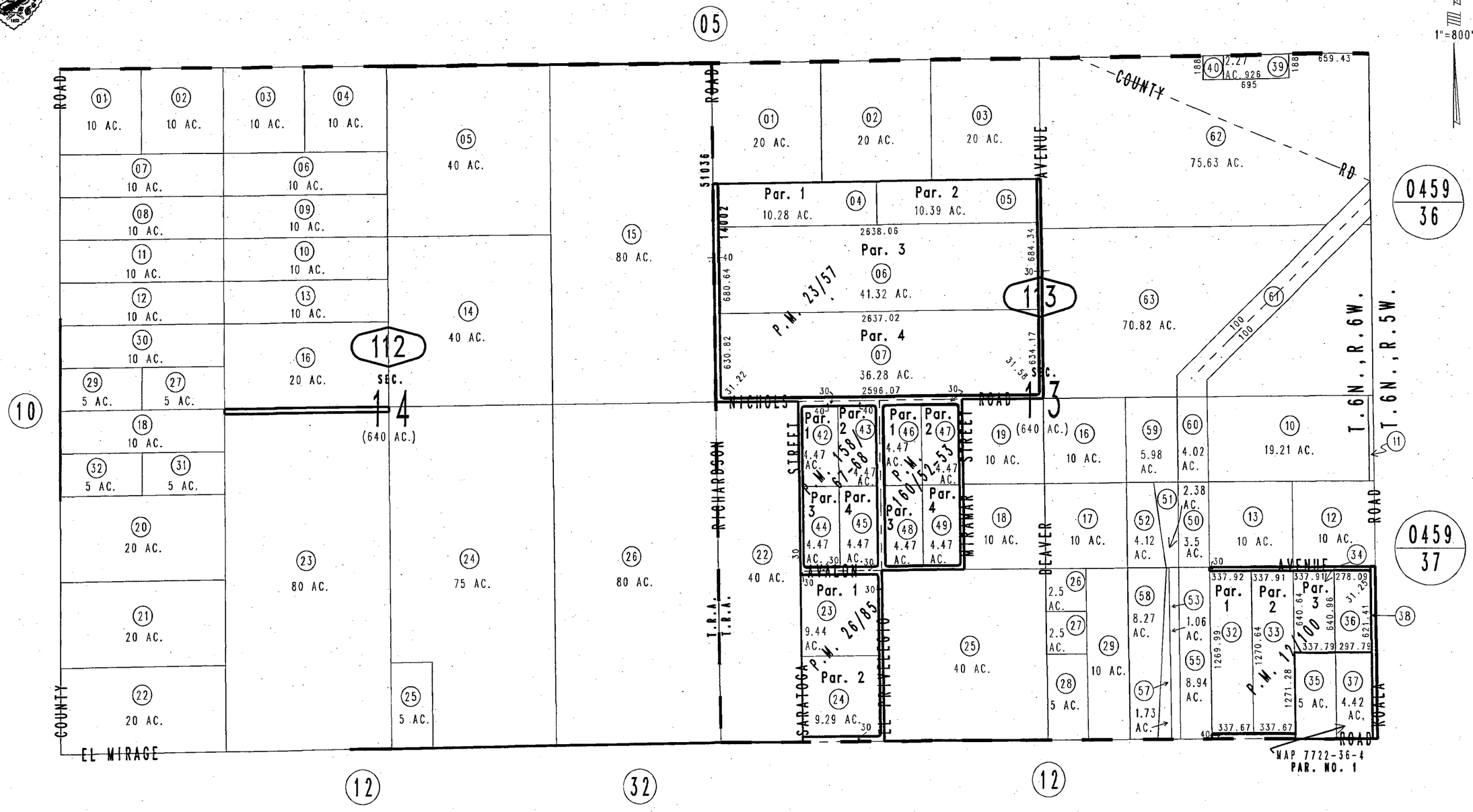
THIS MAP IS FOR THE PURPOSE OF AD VALOREM TAXATION ONLY.

Sec.13&14, T.6N.,R.6W., S.B.B.&M.

City of Adelanto
Adelanto Unified
Tax Rate Area
51036,14002

0458- 11

1"=800'



Parcel Map No. 12400, P.M. 160/52-53
Parcel Map No. 12329, P.M. 158/67-68
Parcel Map No. 2871, P.M. 26/85
Parcel Map No. 1729, P.M. 23/57
Parcel Map No. 1404, P.M. 12/100

February 2004

REVISED
05/18/12 GW-MC
09/26/12 LH

Assessor's Map
Book 0458 Page 11
San Bernardino County

THIS MAP IS FURNISHED AS A MATTER OF
Page 1 of 1
Requested By: pelliott, Printed: 3/18/2019 2:37 PM

stewart title

Real partners. Real possibilities.™

Shelly Sanchez
Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
Phone: (951) 276-2700
Fax: (866) 476-8953
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

Order No.: 359194
Your File No.:
Buyer/Borrower Name:
Seller Name: Denise L Begin Trust 12/12/06

Property Address: APN 0458-113-12, Vacant Land, Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title of California, Inc. hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

NOTE: Attached to this Preliminary Report for review and acceptance is Stewart Title's Affiliated Business Arrangement Disclosure Statement, Owner's Affidavit and Indemnity and the STG Privacy Notice for Stewart Title Companies, consumer must sign and return, prior to recording, Stewart Title's document entitled Acknowledgment of Receipt, Understanding and Approval of Preliminary Report, Affiliated Business Arrangement Disclosure Statement and STG Privacy Notice for Stewart Title Companies.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of January 30, 2019 at 7:30AM	

When replying, please contact: Shelly Sanchez, Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
(951) 276-2700

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☒ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☒ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

FEE

Title to said estate or interest at the date hereof is vested in:

Denise L Begin Trustee of the Denise L. Begin Trust dated December 12, 2006, subject to Item No. 10 and 11, of Schedule B.

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The Southeast quarter of the Northeast quarter of the Southeast quarter of Section 13, Township 6 North, Range 6 West, San Bernardino Base and Meridian, according to Government Survey.

APN: 0458-113-12

(End of Legal Description)

MAP

THE MAP CONNECTED HEREWITH IS BEING PROVIDED AS A COURTESY AND FOR INFORMATIONAL PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. STEWART ASSUMES NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO THE MAPS NOR ANY MATTERS CONCERNING THE CONTENTS OF OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California.

B. Assessments, if any, for Community Facility Districts affecting said land which may exist by virtue of assessment maps or notices filed by said districts. Said assessments are collected with the County Taxes.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Any lease, grant, exception, or reservation of minerals or mineral rights appearing in the Public Records.

3. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

4. Reservations and exceptions in the Patent by United States of America recorded in Book J Page 369 of Official Records.

5. An easement for road purposes and rights incidental thereto as reserved in a document recorded November 6, 1930 in Book 674 Page 58, of Official Records, which affects 40 feet on east side

6. The fact that said land is included within a project area of The Adelanto Improvement Project Area (Amended 80-1) Redevelopment Agency, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded June 10, 1983 As Instrument No. 83-128498, of Official Records.

7. An easement for utilities and access and rights incidental thereto in favor of Continental Telephone Company of California, a Corporation as set forth in a document recorded October 8, 1985 as Instrument no. 85-249230 of Official Records

   Said matter affects a portion of said land as more particularly described in said document.

8. The fact that said land is included within a project area of the 1993 Victor Valley Redevelopment Project (Amendment No. 7) Redevelopment Agency, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded August 22, 2005 as Instrument no. 2005-0618845, of Official Records

And Recorded December 29, 2006 As Instrument No. 2006-0896250, of Official Records.

9. The fact that said land is included within a project area of the Adelanto Redevelopment Agency, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded January 03, 2008 As Instrument No. 2008-0002772, of Official Records .

10. Any invalidity or defect in the title of the vestees in the event that the trust referred to in the vesting portion of Schedule A is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

11. If title is to be insured in the trustee(s) of a trust or their act is to be insured, we will require a full copy of the trust agreement and any amendments thereto. In certain situations the Company may accept a Trust Certificate, pursuant to Section 18100.5 of the California Probate Code in lieu of the trust agreement. The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

12. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

13. Rights or claims of parties in possession and easements or claims of easements not shown by the public records, boundary line disputes overlaps, encroachments, and any matters not of record, which would be disclosed by an accurate survey, and inspection of the land.

14. Rights of tenants in possession as tenants only under unrecorded leases.

(End of Exceptions)

NOTES AND REQUIREMENTS

For transactions where Stewart Title of California, Inc.. is not the settlement/closing agent, a signed and dated copy of the attached "Acknowledgment of Receipt, Understanding and Approval of Affiliated Business Arrangement Disclosure Statement and STG Privacy Notice for Stewart Title Companies", will be required prior to recording.

A. The following pricing will apply to the contemplated transaction: Basic Rate.

B. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
1st Installment: $177.64
2nd Installment: $177.64
Parcel No.: 0458-113-12-0-000
Code Area: 014002

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title of California, Inc. via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title of California, Inc.. Stewart Title of California, Inc. may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title of California, Inc. shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title of California, Inc.. Such benefits shall be deemed additional compensation to Stewart Title of California, Inc. for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 359194
Escrow No.: 359194

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The Southeast quarter of the Northeast quarter of the Southeast quarter of Section 13, Township 6 North, Range 6 West, San Bernardino Base and Meridian, according to Government Survey.

APN: 0458-113-12

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: February 13, 2019

File No.: 359194

Property: APN 0458-113-12, Vacant Land, Adelanto, CA 92301

From: Stewart Title of California, Inc.

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and . Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (c) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records,
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i) the occupancy, use, or enjoyment of the Land;
   ii) the character, dimensions, or location of any improvement erected on the Land;
   iii) the subdivision of land; or
   iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

File No.: 359194

AVAILABLE DISCOUNTS DISCLOSURE STATEMENT

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") is pleased to inform you that upon proper qualification, there are premium discounts available upon the purchase of title insurance covering improved property with a one to four family residential dwelling.

Such discounts apply to and include:

Property located within an area proclaimed a state or federal disaster area;

Property purchased from a foreclosing beneficiary or successful bidder at a foreclosure sale;

Property being refinanced.

Please talk with your escrow or title officer to determine your qualification for any of these discounts.

CERTIFICATION OF TRUST

(California Probate Code 18100.5)

IMPORTANT: THIS CERTIFICATION OF TRUST MUST BE FULLY COMPLETED

I/(We) _____

(Name of Trustee(s))

as Trustee(s) of the _____

(Name of Trust)

dated (the "Trust") am/are providing the information set forth below at the request of Stewart Title Guaranty Company, a Texas corporation, and its policy issuing agent , a California corporation (hereafter collectively called "Company").

WHEREAS, Company has been requested to issue a title insurance policy on the real property described in Schedule "A" of the Preliminary Report or Commitment issued under order number 359194; and

WHEREAS, Company has determined that information concerning the Trust is necessary to ascertain whether Company will be able to issue the requested policy of title insurance;

THEREFORE, acting in my/our capacity as Trustee(s) of the Trust, I/we hereby certify and confirm to Company that the information set forth below is accurate and correct.

1. The Trust identification number (SSN or employer Tax ID) is: _____

2. The Settlor(s) of the Trust is/are:
   _____
   _____

3. The currently active Trustee(s) of the Trust is/are:
   _____
   _____

4. As set out in the Trust, the powers of the Trustee(s) include: (check all that apply)
   ____ The power to sell, convey and grant trust property.
   ____ The power to hypothecate (borrow money and encumber/lien trust property).

5. As set out in the Trust, are all currently active Trustee(s) required to execute documents when exercising the powers set forth above?
   (circle one) YES NO

6. As set out in the Trust, the Trust is: (check the appropriate box) ____ Revocable ____ Irrevocable

7. If the Trust is revocable, the name(s) of the person(s) identified as having power to revoke the Trust is/are:
   _____

8. The Trust and the individual named Settlor(s) do not have any liens or money judgments pending, filed and/or recorded against them.

9. The Trust and/or the individually named Settlor(s) are not aware of any threatened, pending, or filed lawsuits nor have it/they settled any lawsuits within the three (3) calendar years immediately preceding the signing of this Certification.

10. By signing below, the undersigned Trustee(s) affirm that the Trust is in full force and effect and has not been revoked or terminated; in addition, the Trust has not been modified or amended in any manner which would cause the representations set forth herein to be incorrect.

11. Is this Certification of Trust is being executed by all currently active Trustees of the Trust? (circle one) YES NO
    If "NO," please explain: _____

12. Are there any living persons or entities named as Trustee in the Trust who are not "currently active Trustees"? (circle one) YES NO If "YES," identify by name and explain why: _____
_____

13. The undersigned Trustees acknowledge and understand that Company may require additional information, including copies and/or excerpts of the Trust and any amendments, when necessary, in order to make an insurance determination.

14. The undersigned Trustee(s) state to the best of his/her/their knowledge, that there are no claims, challenges of any kind, and/or alleged causes of action, contesting or questioning the validity of the Trust or the Trustee(s) authority to act on behalf of the Trust.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS IN THIS CERTIFICATION BEFORE SIGNING. THE TRUSTEE(S) HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION IS TRUE AND CORRECT. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS CERTIFICATION, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING. THE TRUSTEE(S) UNDERSTAND THAT COMPANY MAY DECIDE NOT TO PROVIDE THE REQUESTED TITLE INSURANCE DESPITE THE INFORMATION AND AFFIRMATIONS CONTAINED HEREIN.

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California }
}SS.
County of _____ }

On _____ before me, _____ , Notary Public, personally appeared _____
who proved to be on the basis of satisfactory evidence to be the person(s), whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (this area for official notarial seal)

OWNER'S AFFIDAVIT AND INDEMNITY

Order No.: 359194
Address/Location: APN 0458-113-12, Vacant Land, Adelanto, CA 92301
APN: 0458-113-12

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer STEWART TITLE GUARANTY COMPANY, and its policy issuing agent STEWART TITLE OF CALIFORNIA, INC. (collectively hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

6. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

7. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

8. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

9. Affiant is not aware of the existence of any of the following:
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.

j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.

With regard to 9a.-9j, except as follows:

_____

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance
_____	_____
_____	_____

12. There are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights on the Property, except the following: **(If none, please state "none")**

    _____

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

    _____

14. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____

Denise L Begin Trust 12/12/06

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

Stewart Title Guaranty Company Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you request insurance-related services provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056**

THIS MAP IS FOR THE PURPOSE OF AD VALOREM TAXATION ONLY.

Sec.13&14, T.6N.,R.6W., S.B.B.&M.

City of Adelanto
Adelanto Unified
Tax Rate Area
51036,14002

0458- 11

1"=800'

Parcel Map No. 12400, P.M. 160/52-53
Parcel Map No. 12329, P.M. 158/67-68
Parcel Map No. 2871, P.M. 26/85
Parcel Map No. 1729, P.M. 23/57
Parcel Map No. 1404, P.M. 12/100

February 2004

Assessor's Map
Book 0458 Page 11
San Bernardino County

REVISED
05/18/12 GW-MC
09/26/12 LH

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stewart title

Real partners. Real possibilities.™

Stewart Title of California, Inc.
11870 Pierce Street, Ste 100
Riverside, CA 92505
main fax

Date: February 13, 2019
Escrow Officer:
Order No.: 359194
Your File No.:
Property Address: APN 0458-113-12, Vacant Land, Adelanto, CA 92301

ACKNOWLEDGEMENT OF RECEIPT, UNDERSTANDING AND APPROVAL OF PRELIMINARY REPORT, AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT AND STG PRIVACY NOTICE FOR STEWART TITLE COMPANIES

The undersigned Buyer(s) hereby acknowledge receipt of a copy of the Preliminary Report issued by Stewart Title of California, Inc. under Order No. 359194, dated January 30, 2019 7:30AM and hereby approves the legal description of subject property shown on Schedule A of the report.

Buyer(s) Approval of Preliminary Report: Buyer(s) herein hereby approves Items _____ of Schedule B of the report to be included in the Policy of Title Insurance as exceptions when written. Further, Buyer(s) hereby acknowledge receipt and approval of the Covenants, Conditions and Restrictions, and any and all Schedule B exceptions detailed above, for example, easements, right-of-ways, and restrictions, if any.

The undersigned Buyer(s) also acknowledge receipt of a copy of Stewart Title of California, Inc.'s Affiliated Business Arrangement Disclosure Statement and STG Privacy Notice for Stewart Title Companies that applies to this transaction processed by Stewart Title of California, Inc.. The undersigned Buyer(s) further acknowledge that he/she/they have received, read, understand and accept these documents in connection with the above described close of escrow.

The undersigned have received a copy of this acknowledgement as evidenced by the signature below.

Buyer(s):

TBD

By:_____

stewart title

Real partners. Real possibilities.™

Stewart Title of California, Inc.
11870 Pierce Street, Ste 100
Riverside, CA 92505
main fax

Date: February 13, 2019
Escrow Officer:
Order No.: 359194
Your File No.:
Property Address: APN 0458-113-12, Vacant Land, Adelanto, CA 92301

ACKNOWLEDGEMENT OF RECEIPT, UNDERSTANDING AND APPROVAL OF PRELIMINARY REPORT, AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT, OWNER'S AFFIDAVIT AND INDEMNITY AND STG PRIVACY NOTICE FOR STEWART TITLE COMPANIES

The undersigned Seller(s) hereby acknowledge receipt of a copy of the Preliminary Report issued by Stewart Title of California, Inc. under Order No. 359194, dated January 30, 2019 7:30AM and hereby approves the legal description of subject property shown on Schedule A of the report.

Seller(s) Acknowledgement: Seller(s) herein warrant and confirm that, to Seller(s) knowledge, all Deeds of Trusts (e.g., mortgages, loans and lines of credit), liens, judgments and/or encumbrances affecting Seller(s) and subject property are reflected in the Preliminary Report. If not, Seller(s) will provide Escrow Holder with information to facilitate the pay-off and/or removal of any such items before or at the close of escrow.

The undersigned Seller(s) also acknowledge receipt of a copy of Stewart Title of California, Inc.'s Affiliated Business Arrangement Disclosure Statement, Owner's Affidavit and Indemnity and STG Privacy Notice for Stewart Title Companies that applies to this transaction processed by Stewart Title of California, Inc.. The undersigned Seller(s) further acknowledge that he/she/they have received, read, understand and accept these documents in connection with the above described close of escrow.

The undersigned have received a copy of this acknowledgement as evidenced by the signature below.

Seller(s):

_____
Denise L Begin Trust 12/12/06

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Shelly Sanchez
Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
Phone: (951) 276-2700
Fax: (866) 476-8953
Shelly.Sanchez@stewart.com

PRELIMINARY REPORT

Order No.: 372430
Your File No.:
Buyer/Borrower Name:
Seller Name: John V Kay and Michelle F Kay

Property Address: APNS 0459-371-53 & 0459-371-54, Vacant Land, Adelanto, CA 92301

In response to the above referenced application for a Policy of Title Insurance, Stewart Title of California, Inc. hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Stewart Title Guaranty Company Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referenced to as an Exception on Schedule B or not excluded from coverage pursuant to the printed Schedules, Conditions, and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on covered Risks of said policy or policies are set forth in Exhibit A attached. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limits of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters, which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report, (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance a binder or commitment should be requested.

Dated as of February 25, 2019 at 8:00AM	

When replying, please contact: Shelly Sanchez, Title Officer

Stewart Title of California, Inc.
11870 Pierce St, Ste 100
Riverside, CA 92505
(951) 276-2700

PRELIMINARY REPORT

The form of Policy of Title Insurance contemplated by this report is:

☒ CLTA Standard Coverage Policy

☐ CLTA/ALTA Homeowners Policy

☐ 2006 ALTA Owner's Policy

☐ 2006 ALTA Loan Policy

☐ ALTA Short Form Residential Loan Policy

☐

SCHEDULE A

The estate or interest in the land hereinafter described or referred to covered by this report is:

Fee

Title to said estate or interest at the date hereof is vested in:

John V. Kay and Michelle F. Kay, Trustees of The John V. & Michelle F. Kay Family Trust dated April 30, 2009

LEGAL DESCRIPTION

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The Northeast 1/4 of the Southwest 1/4 of Section 18, Township 6 North, Range 5 West, San Bernardino Meridian, in the County of San Bernardino, State of California, according to the Official Plat of said land.

Except the westerly 250.00 feet of the easterly 290.00 feet thereof, as conveyed to Southern California Edison Company by deed recorded November 18, 1992 as Instrument No. 92-470465 of Official Records.

APN: 0459-371-53, 0459-371-54

(End of Legal Description)

THE MAP CONNECTED HEREWITH IS BEING PROVIDED AS A COURTESY AND FOR INFORMATIONAL PURPOSES ONLY; THIS MAP SHOULD NOT BE RELIED UPON. FURTHERMORE, THE PARCELS SET OUT ON THIS MAP MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES. STEWART ASSUMES NO LIABILITY, RESPONSIBILITY OR INDEMNIFICATION RELATED TO THE MAPS NOR ANY MATTERS CONCERNING THE CONTENTS OF OR ACCURACY OF THE MAP.

SCHEDULE B

At the date hereof, exceptions to coverage in addition to the printed exceptions and exclusions contained in said policy or policies would be as follows:

Taxes:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes, to be levied for the fiscal year 2019 - 2020.

B. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Chapter 3.5 (commencing with Section 75) of the Revenue and Taxation Code of the State of California.

C. Assessments, if any, for Community Facility Districts affecting said land which may exist by virtue of assessment maps or notices filed by said districts. Said assessments are collected with the County Taxes.

Exceptions:

1. Water rights, claims or title to water in or under said land, whether or not shown by the public records.

2. Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, uranium, clay, rock, sand and gravel in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed.

3. Title to, and easements in, any portion of the land lying within any highways, roads, streets, or other ways.

4. Reservations and exceptions in the Patent by the United States, recorded November 29, 1916 in Book K page 181 of Patents.

   Subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws and decisions of the courts, and the reservation from the lands hereby granted, a right(s) of way thereon for ditches or canals by the authority of the United States.

5. An easement for road and public utility purposes, and for ingress and egress in connection with the exercise of any of the herein described rights, and rights incidental thereto in favor of the City of Adelanto, a Municipal Corporation, as set forth in a document recorded September 6, 1994 as Instrument No. 94-371706 of Official Records, affects as shown therein.

6. An easement for road and public utility purposes, and for ingress and egress in connection with the exercise of any of the hereinafter described rights, and rights incidental thereto in favor of the City of Adelanto, a Municipal Corporation, as set forth in a document recorded September 6, 1994 as Instrument No. 94-371707 of Official Records, affects as shown therein.

7. An easement for road and public utility purposes, and for ingress and egress in connection with the exercise of any of the hereinafter described rights, and rights incidental thereto in favor of

the City of Adelanto, a Municipal Corporation, as set forth in a document recorded September 6, 1994 as Instrument No. 94-371708 of Official Records, affects as shown therein.

8. An easement for road and public utility purposes, and for ingress and egress in connection with the exercise of any of the hereinafter described rights, and rights incidental thereto in favor of the City of Adelanto, a Municipal Corporation, as set forth in a document recorded September 6, 1994 as Instrument No. 94-371709 of Official Records, affects as shown therein.

9. The fact that said land is included within a project area of the Victor Valley Redevelopment Project, and that proceedings for the redevelopment of said project have been instituted under the Redevelopment Law (such redevelopment to proceed only after the adoption of the redevelopment plan) as disclosed by a document recorded December 29, 2006 as Instrument No. 06-896250 of Official Records.

10. Easements, if any, for public utilities pipelines or facilities installed in any portion of the vacated street or alley, Racoon Avenue, lying within the land, together with the right of ingress and egress to repair, maintain, replace and remove the same.

11. Please be advised that our search did not disclose any open deeds of trust of record. If you should have knowledge of any outstanding obligation, please contact your title officer immediately for further review.

12. Any invalidity or defect in the title of the vestees in the event that the trust referred to in the vesting portion of Schedule A is invalid or fails to grant sufficient powers to the trustee(s) or in the event there is a lack of compliance with the terms and provisions of the trust instrument.

13. If title is to be insured in the trustee(s) of a trust or their act is to be insured, we will require a full copy of the trust agreement and any amendments thereto. In certain situations the Company may accept a Trust Certificate, pursuant to Section 18100.5 of the California Probate Code in lieu of the trust agreement. The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

14. Information in possession of the Company indicates that a division of land, as defined in Government Code Section 66424, is contemplated in the current transaction involving the land described in this report. Such contemplated division of land would appear to fall within the purview of the Subdivision Map Act (commencing with Government Code Section 66410), and as a pre-requisite to the issuance of final title evidence at least one of the following requirements must be accomplished to this Company's satisfaction:
a) That a Final (Tract) Map has been recorded in compliance with the Subdivision Map Act and related ordinances;
b) That a Parcel Map has been recorded in compliance with the Subdivision Map Act and related ordinances;
c) The recording of a certificate of compliance, as provided by statute;
d) The recording of a waiver as provided by Government Code Section 66428; or
e) Submission of other satisfactory evidence of compliance with or non-violation of the Act.

(End of Exceptions)

NOTES AND REQUIREMENTS

For transactions where Stewart Title of California, Inc.. is not the settlement/closing agent, a signed and dated copy of the attached "Acknowledgment of Receipt, Understanding and Approval of Affiliated Business Arrangement Disclosure Statement and STG Privacy Notice for Stewart Title Companies", will be required prior to recording.

A. Basic Rate

B. There are no conveyances affecting said land, recorded with the County Recorder within 24 months of the date of this report.

C. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
1st Installment: $1,345.93
2nd Installment: $1,345.90
Parcel No.: 0459-371-53-0
Code Area: 014002

D. Property taxes for the fiscal year 2018 - 2019 shown below are paid. For proration purposes the amounts are:
1st Installment: $16.26
2nd Installment: $16.26
Parcel No.: 0459-371-54-0
Code Area: 014002

CALIFORNIA "GOOD FUNDS" LAW

California Insurance Code Section 12413.1 regulates the disbursement of escrow and sub-escrow funds by title companies. The law requires that funds be deposited in the title company escrow account and available for withdrawal prior to disbursement. Funds received by Stewart Title of California, Inc. via wire transfer may be disbursed upon receipt. Funds received via cashier's checks or teller checks drawn on a California Bank may be disbursed on the next business day after the day of deposit. If funds are received by any other means, recording and/or disbursement may be delayed, and you should contact your title or escrow officer. All escrow and sub-escrow funds received will be deposited with other escrow funds in one or more non-interest bearing escrow accounts in a financial institution selected by Stewart Title of California, Inc.. Stewart Title of California, Inc. may receive certain direct or indirect benefits from the financial institution by reason of the deposit of such funds or the maintenance of such accounts with the financial institution, and Stewart Title of California, Inc. shall have no obligation to account to the depositing party in any manner for the value of, or to pay to such party, any benefit received by Stewart Title of California, Inc.. Such benefits shall be deemed additional compensation to Stewart Title of California, Inc. for its services in connection with the escrow or sub-escrow.

If any check submitted is dishonored upon presentation for payment, you are authorized to notify all principals and/or their respective agents of such nonpayment.

EXHIBIT "A"

LEGAL DESCRIPTION

Order No.: 372430
Escrow No.: 372430

The land referred to herein is situated in the State of California, County of San Bernardino, City of Adelanto and described as follows:

The Northeast 1/4 of the Southwest 1/4 of Section 18, Township 6 North, Range 5 West, San Bernardino Meridian, in the County of San Bernardino, State of California, according to the Official Plat of said land.

Except the westerly 250.00 feet of the easterly 290.00 feet thereof, as conveyed to Southern California Edison Company by deed recorded November 18, 1992 as Instrument No. 92-470465 of Official Records.

APN: 0459-371-53, 0459-371-54

(End of Legal Description)

AFFILIATED BUSINESS ARRANGEMENT DISCLOSURE STATEMENT

Date: March 11, 2019

File No.: 372430

Property: APNS 0459-371-53 & 0459-371-54, Vacant Land, Adelanto, CA 92301

From: Stewart Title of California, Inc.

This is to give you notice that Stewart Title of California, Inc. ("Stewart Title") has a business relationship with Stewart Solutions, LLC, DBA – Stewart Specialty Insurance Services, LLC ("Stewart Insurance"). Stewart Information Services Corporation owns 100% of Stewart Insurance and . Because of this relationship, this referral may provide Stewart Title a financial or other benefit.

Set forth below is the estimated charge or range of charges for the settlement services listed. You are NOT required to use the listed provider(s) as a condition for purchase, sale, or refinance of the subject Property. THERE ARE FREQUENTLY OTHER SETTLEMENT SERVICE PROVIDERS AVAILABLE WITH SIMILAR SERVICES. YOU ARE FREE TO SHOP AROUND TO DETERMINE THAT YOU ARE RECEIVING THE BEST SERVICES AND THE BEST RATE FOR THESE SERVICES.

Stewart Insurance Settlement Service	***Charge or range of charges***
Hazard Insurance	$400.00 to $6,500.00
Home Warranty	$255.00 to $ 780.00
Natural Hazard Disclosure Report	$ 42.50 to $ 149.50

Exhibit A (Revised 06-03-11)

CALIFORNIA LAND TITLE ASSOCIATION STANDARD COVERAGE POLICY – 1990 EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (c) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records,
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division;
   f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.

3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.

4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they appear in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.

5. Failure to pay value for Your Title.

6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

This Exclusion does not limit the coverage described in Covered Risk 11 or 21.

7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
* For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19:	1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21:	1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i) the occupancy, use, or enjoyment of the Land;
   ii) the character, dimensions, or location of any improvement erected on the Land;
   iii) the subdivision of land; or
   iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.

5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.

6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.

3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.

4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.

5. (a) unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

File No.: 372430

AVAILABLE DISCOUNTS DISCLOSURE STATEMENT

This is to give you notice that Stewart Title of California, Inc. (“Stewart Title”) is pleased to inform you that upon proper qualification, there are premium discounts available upon the purchase of title insurance covering improved property with a one to four family residential dwelling.

Such discounts apply to and include:

Property located within an area proclaimed a state or federal disaster area;

Property purchased from a foreclosing beneficiary or successful bidder at a foreclosure sale;

Property being refinanced.

Please talk with your escrow or title officer to determine your qualification for any of these discounts.

stewart title

Real partners. Real possibilities.™

Stewart Title of California, Inc.
11870 Pierce Street, Ste 100
Riverside, CA 92505
Phone:
Fax:

IF YOU'RE PAYING FOR THE OWNER'S TITLE INSURANCE POLICY PREMIUM, PLEASE COMPLETE AND SUBMIT THIS FORM TO DETERMINE ELIGIBILITY FOR ONE OF THE STATED SPECIAL DISCOUNTS

STGC TITLE PREMIUM DISCOUNT APPLICATION AND CONFIRMATION OF ELIGIBILITY

Order Number: 372430

Property: APNS 0459-371-53 & 0459-371-54, Vacant Land, Adelanto, CA 92301

APN: 0459-371-53, 0459-371-54

In connection with the request of the Undersigned ("Applicant") for the preparation and issuance of title insurance, Applicant provides this completed STGC Title Premium Discount Application and Confirmation of Eligibility ("Request Form") for the benefit of, and reliance by, title insurer Stewart Title Guaranty Company, and its policy issuing agent Stewart Title of California, Inc. (collectively hereafter referred to as "Stewart Title") in connection with pricing the owner's title insurance premium for the owner-occupied, 1-4 family residence in the above referenced transaction:

1. Applicant understands that Stewart Title has available for qualifying requestors a 10% discount on the title insurance premium charged under certain circumstances; however, all endorsement fees and other charges are not discounted.
2. Applicant understands that Stewart Title is only able to provide such discount if requested through providing this completed Request Form and is received by Stewart Title at least five (5) business days prior to recording of the transaction to which a discount is requested.
3. Applicant understands that Stewart Title prohibits combined discounts; accordingly, Stewart Title will provide this requested discount and disregard other applicable discounts, if any, when eligibility requirements for such discount are satisfied.
4. Applicant requests the following discount and affirms that Applicant meets the criteria and requirements set forth to qualify for such selected discount (SELECT ONLY ONE QUALIFYING DISCOUNT):

☐ Active duty military personnel discount – To qualify for an active duty military personnel discount: (1) the property being purchased is a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one of the undersigned purchaser(s) is a U.S. citizen, permanent resident or qualified alien and is engaged in full-time, active duty in the military on the date signed below.

☐ Senior citizen discount – To qualify for a senior citizen discount: (1) the property being purchased is a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one of the undersigned purchaser(s) is a U.S. citizen, permanent resident or qualified alien and is 65 years of age or older on the date signed below.

☐ First-time homebuyer discount – To qualify for a first-time homebuyer discount: (1) the property being purchased is a fee simple interest in an owner-occupied 1-4 family residence; and (2) at least one of the undersigned purchaser(s) is a U.S. citizen, permanent resident or qualified alien and has either never owned any property or, has not been an owner in a primary residence for the last three calendar years from the date signed below.

This Request Form is completed under penalty of perjury and is made for the purpose of inducing Stewart Title to provide the title premium discount, and the representations contained herein are material to such insurance coverage pricing. The undersigned hereby indemnifies and holds Stewart Title harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain to the extent any representation contained herein is incorrect. The undersigned understands that Stewart Title may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ AND COMPLETE THE STGC TITLE PREMIUM DISCOUNT REQUEST FORM ON THE PREVIOUS PAGE BEFORE SIGNING BELOW. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD CONTACT YOUR LOCAL STEWART TITLE PROFESSIONAL.

THE UNDERSIGNED DECLARES UNDER PENALTY OF PERJURY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.

Date: _____, 2019

_____ _____

_____ _____

CERTIFICATION OF TRUST

(California Probate Code 18100.5)

IMPORTANT: THIS CERTIFICATION OF TRUST MUST BE FULLY COMPLETED

I/(We) _____

(Name of Trustee(s))

as Trustee(s) of the _____

(Name of Trust)

dated (the "Trust") am/are providing the information set forth below at the request of Stewart Title Guaranty Company, a Texas corporation, and its policy issuing agent , a California corporation (hereafter collectively called "Company").

WHEREAS, Company has been requested to issue a title insurance policy on the real property described in Schedule "A" of the Preliminary Report or Commitment issued under order number 372430; and

WHEREAS, Company has determined that information concerning the Trust is necessary to ascertain whether Company will be able to issue the requested policy of title insurance;

THEREFORE, acting in my/our capacity as Trustee(s) of the Trust, I/we hereby certify and confirm to Company that the information set forth below is accurate and correct.

1. The Trust identification number (SSN or employer Tax ID) is: _____

2. The Settlor(s) of the Trust is/are:
   _____
   _____

3. The currently active Trustee(s) of the Trust is/are:
   _____
   _____

4. As set out in the Trust, the powers of the Trustee(s) include: (check all that apply)
   ____ The power to sell, convey and grant trust property.
   ____ The power to hypothecate (borrow money and encumber/lien trust property).

5. As set out in the Trust, are all currently active Trustee(s) required to execute documents when exercising the powers set forth above?
   (circle one) YES NO

6. As set out in the Trust, the Trust is: (check the appropriate box) ____ Revocable ____ Irrevocable

7. If the Trust is revocable, the name(s) of the person(s) identified as having power to revoke the Trust is/are:
   _____

8. The Trust and the individual named Settlor(s) do not have any liens or money judgments pending, filed and/or recorded against them.

9. The Trust and/or the individually named Settlor(s) are not aware of any threatened, pending, or filed lawsuits nor have it/they settled any lawsuits within the three (3) calendar years immediately preceding the signing of this Certification.

10. By signing below, the undersigned Trustee(s) affirm that the Trust is in full force and effect and has not been revoked or terminated; in addition, the Trust has not been modified or amended in any manner which would cause the representations set forth herein to be incorrect.

11. Is this Certification of Trust is being executed by all currently active Trustees of the Trust? (circle one) YES NO
    If "NO," please explain: _____

12. Are there any living persons or entities named as Trustee in the Trust who are not "currently active Trustees"? (circle one) YES NO If "YES," identify by name and explain why: _____
_____

13. The undersigned Trustees acknowledge and understand that Company may require additional information, including copies and/or excerpts of the Trust and any amendments, when necessary, in order to make an insurance determination.

14. The undersigned Trustee(s) state to the best of his/her/their knowledge, that there are no claims, challenges of any kind, and/or alleged causes of action, contesting or questioning the validity of the Trust or the Trustee(s) authority to act on behalf of the Trust.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS IN THIS CERTIFICATION BEFORE SIGNING. THE TRUSTEE(S) HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION IS TRUE AND CORRECT. IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS CERTIFICATION, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING. THE TRUSTEE(S) UNDERSTAND THAT COMPANY MAY DECIDE NOT TO PROVIDE THE REQUESTED TITLE INSURANCE DESPITE THE INFORMATION AND AFFIRMATIONS CONTAINED HEREIN.

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

Date Signed:_____ Date Signed:_____

_____ _____
Print Trustee Name Print Trustee Name

_____ _____
Trustee Signature Trustee Signature

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California }
}SS.
County of _____ }

On _____ before me, _____ , Notary Public, personally appeared _____
who proved to be on the basis of satisfactory evidence to be the person(s), whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (this area for official notarial seal)

OWNER'S AFFIDAVIT AND INDEMNITY

Order No.: 372430
Address/Location: APNS 0459-371-53 & 0459-371-54, Vacant Land, Adelanto, CA 92301
APN: 0459-371-53, 0459-371-54

In connection with the request of the Undersigned ("Affiant") for the preparation and issuance of insurance, Affiant makes the following statements and representations for the benefit of, and reliance by, title insurer STEWART TITLE GUARANTY COMPANY, and its policy issuing agent STEWART TITLE OF CALIFORNIA, INC. (collectively hereafter referred to as "STEWART TITLE"):

1. Affiant owns and holds title to property described in Schedule A of the Preliminary Report or Commitment issued in connection with the above referenced Order Number (the "Property").

2. The Affiant's possession of the Property has been peaceful and undisturbed, and title thereto has never been disputed, questioned or rejected, nor has the issuance of title insurance ever been refused, except as follows: **(If none, please state "none")**

   _____

3. Other than the Affiant, there are no parties entitled to possession of the Property other than the following: **(If none, please state "none")**

   _____

4. There are no leases, licenses, options, rights of first refusal, or contracts to sell, affecting the Property, or any parties currently in possession, of the Property, except the following: **(If none, please state "none")**

   _____

5. No proceedings in bankruptcy or receivership have been instituted by or against the Affiant or any other property owner currently in title.

6. All assessments by a management, common area, building maintenance or homeowner association, if any, are paid current or are not yet due and payable.

7. There are no pending contemplated repairs/improvements to the Property, except the following: **(If none, please state "none)**

   _____

8. No building materials, repairs, or improvements have been provided, furnished or delivered within the last 12 months, except the following: **(If none, please state "none")**

   _____

9. Affiant is not aware of the existence of any of the following:
   a. Improvements encroaching into any easements or over any boundary lines of the Property.
   b. Adjoining property improvements encroaching onto the Property.
   c. Liens against the Property and/or judgments or tax liens against Affiant or any other property owner currently in title, except those described in the Preliminary Report or Commitment issued in connection with the above referenced Order Number.
   d. Outstanding claims or persons entitled to claims for mechanics' or materialman liens against the Property.
   e. Pending repairs/improvements to the adjacent street(s).
   f. Any pending litigation involving the Property, the Affiant or any other property owner currently in title.
   g. Recent improvements completed or being made to any common area(s) located within the subdivision in which the Property is located.
   h. Violations of any recorded covenants, conditions and/or restrictions imposed on the Property.
   i. Any pending assessments for Community Facility Districts.

j. Any new, pending or existing obligation or loan including any home improvements on the Property pursuant to the PACE or HERO program, or any other similar type program.

With regard to 9a.-9j, except as follows:

_____

10. There are no unpaid utility type bills including but not limited to bills for water, sewer, hazardous waste, recycling, storm drain and/or rubbish and there are no liens related to such utilities from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

11. There are no financial obligations secured by trust deeds, mortgages, financing statements, vendor's liens, security agreements or otherwise, against the Property, except as set forth in the Preliminary Report, proforma and/or Commitment, and as set forth below: **(If none, please state "none")**

Creditor	Approximate Balance
_____	_____
_____	_____

12. There are no oil, gas, geothermal and/or mineral leases, licenses, options, rights of first refusal, and/or contracts to sell, affecting the mineral rights associated with the Property, or other parties currently in possession, of the mineral rights on the Property, except the following: **(If none, please state "none")**

    _____

13. Other than the Affiant, there are no other parties currently in possession of the Property, including but not limited to, any possessory interest associated with the harvesting of any oil, gas, geothermal materials or other minerals, except the following: **(If none, please state "none")**

    _____

14. There has been no harvesting or production of any oil, gas, geothermal materials or other minerals from or on the Property, with the exception of the following: **(If none, please state "none")**

    _____

This is a sworn affidavit and is made for the purpose of inducing STEWART TITLE to provide certain insurance coverage to a purchaser and/or lender, and the representations contained herein are material to such insurance coverage. The undersigned hereby indemnifies and holds STEWART TITLE harmless from any loss or damage, liability, costs, expenses and attorneys' fees which it may sustain under its policies of title insurance or commitments to the extent any representation contained herein is incorrect. The undersigned understands that STEWART TITLE may decide not to provide the requested title insurance despite the information and affirmations contained herein.

PLEASE READ, COMPLETE AND RESPOND TO ALL STATEMENTS CONTAINED IN THIS AFFIDAVIT BEFORE SIGNING IN THE PRESENCE OF A NOTARY PUBLIC. THE NOTARY PUBLIC WILL EXECUTE THE ACKNOWLEDGMENT ON THE FOLLOWING PAGE. HOWEVER, IF YOU DO NOT UNDERSTAND OR HAVE ANY QUESTIONS ABOUT THIS AFFIDAVIT, YOU SHOULD SEEK THE ASSISTANCE OF YOUR INDEPENDENT FINANCIAL AND/OR LEGAL ADVISOR BEFORE SIGNING.

_____	_____
John V Kay	Michelle F Kay

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California)
) ss.
County of _____)

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

_____
Notary Signature

Stewart Title Guaranty Company Privacy Notice
Stewart Title Companies

WHAT DO THE STEWART TITLE COMPANIES DO WITH YOUR PERSONAL INFORMATION?

Federal and applicable state law and regulations give consumers the right to limit some but not all sharing. Federal and applicable state law regulations also require us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand how we use your personal information. This privacy notice is distributed on behalf of the Stewart Title Guaranty Company and its title affiliates (the Stewart Title Companies), pursuant to Title V of the Gramm-Leach-Bliley Act (GLBA).

The types of personal information we collect and share depend on the product or service that you have sought through us. This information can include social security numbers and driver's license number.

All financial companies, such as the Stewart Title Companies, need to share customers' personal information to run their everyday business—to process transactions and maintain customer accounts. In the section below, we list the reasons that we can share customers' personal information; the reasons that we choose to share; and whether you can limit this sharing.

Reasons we can share your personal information.	Do we share	Can you limit this sharing?
For our everyday business purposes— to process your transactions and maintain your account. This may include running the business and managing customer accounts, such as processing transactions, mailing, and auditing services, and responding to court orders and legal investigations.	Yes	No
For our marketing purposes— to offer our products and services to you.	Yes	No
For joint marketing with other financial companies	No	We don't share
For our affiliates' everyday business purposes— information about your transactions and experiences. Affiliates are companies related by common ownership or control. They can be financial and non-financial companies. *Our affiliates may include companies with a Stewart name; financial companies, such as Stewart Title Company*	Yes	No
For our affiliates' everyday business purposes— information about your creditworthiness.	No	We don't share
For our affiliates to market to you — For your convenience, Stewart has developed a means for you to opt out from its affiliates marketing even though such mechanism is not legally required.	Yes	Yes, send your first and last name, the email address used in your transaction, your Stewart file number and the Stewart office location that is handling your transaction by email to optout@stewart.com or fax to 1-800-335-9591.
For non-affiliates to market to you. Non-affiliates are companies not related by common ownership or control. They can be financial and non-financial companies.	No	We don't share

We may disclose your personal information to our affiliates or to non-affiliates as permitted by law. If you request a transaction with a non-affiliate, such as a third party insurance company, we will disclose your personal information to that non-affiliate. [We do not control their subsequent use of information, and suggest you refer to their privacy notices.]

SHARING PRACTICES

How often do the Stewart Title Companies notify me about their practices?	We must notify you about our sharing practices when you request a transaction.
How do the Stewart Title Companies protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer, file, and building safeguards.
How do the Stewart Title Companies collect my personal information?	We collect your personal information, for example, when you request insurance-related services provide such information to us We also collect your personal information from others, such as the real estate agent or lender involved in your transaction, credit reporting agencies, affiliates or other companies.
What sharing can I limit?	Although federal and state law give you the right to limit sharing (e.g., opt out) in certain instances, we do not share your personal information in those instances.

Contact us: If you have any questions about this privacy notice, please contact us at: **Stewart Title Guaranty Company, 1980 Post Oak Blvd., Privacy Officer, Houston, Texas 77056**

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Site 4* *Site 4* *Adelanto CA*
Project No:	
Report Type:	*Database Report*
Order No:	*20191113048*
Requested by:	*Terracon Consultants, Inc.*
Date Completed:	*November 14, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as database review of environmental records.

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Executive Summary

Property Information:

Project Property:		*Site 4* *Site 4 Adelanto CA*
Project No:		
Coordinates:		
	Latitude:	*34.607144*
	Longitude:	*-117.448082*
	UTM Northing:	*3,829,569.49*
	UTM Easting:	*458,917.16*
	UTM Zone:	*UTM Zone 11S*
Elevation:		*2,805 FT*

Order Information:

Order No:	*20191113048*
Date Requested:	*November 13, 2019*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials Photographs*
City Directory Search	*CD - 4 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*
terraDOCS Report	*terraDOCS (Terracon)*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	0	-	-	0
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	0	0	-	0
DELISTED LST	Y	.5	0	0	0	0	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	0	-	-	0
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	0	0	-	-	0
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
SANBERN CUPA	Y	.25	0	1	1	-	-	2
Additional Environmental Records								
Federal								
PFAS NPL	Y	.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
PFAS	Y	.5	0	0	0	0	-	0
PFAS GW	Y	.5	0	0	0	0	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	1	-	-	-	1
DELISTED HAZ	Y	.5	0	0	0	0	-	0
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	1	2	-	-	3
CDL	Y	.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental databases were selected to be included in the search.***							
Total:			*0*	*3*	*3*	*0*	*0*	*6*

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	CERS HAZ	CENTURYLINK - ADELANTO - ADLNCADA	19408 KOALA RD ADELANTO CA 92301	SW	0.12 / 641.97	9	17
1	SANBERN CUPA	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA	19408 Koala Rd ADELANTO CA 92301	SW	0.12 / 641.97	9	19
1	EMISSIONS	LEVEL 3 COMMUNICATIONS - KOALA RD	19408 KOALA RD ADELANTO CA 92301	SW	0.12 / 641.97	9	19
2	SANBERN CUPA	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCACS	19402 Koala Rd ADELANTO CA 92301	SW	0.13 / 680.39	9	20
2	EMISSIONS	LEVEL 3 COMMUNICATIONS - KOALA RD	19402 KOALA ROAD ADELANTO CA 92301	SW	0.13 / 680.39	9	20
2	EMISSIONS	WILLIAMS COMMUNICATION - ADELANTO	19402 KOALA ROAD ADELANTO CA 92301	SW	0.13 / 680.39	9	21

Executive Summary: Summary by Data Source

Standard

County

SANBERN CUPA - San Bernardino County - CUPA List

A search of the SANBERN CUPA database, dated Oct 17, 2019 has found that there are 2 SANBERN CUPA site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA	19408 Koala Rd ADELANTO CA 92301	SW	0.12 / 641.97	1
LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCACS	19402 Koala Rd ADELANTO CA 92301	SW	0.13 / 680.39	2

Non Standard

State

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the CERS HAZ database, dated Aug 19, 2019 has found that there are 1 CERS HAZ site(s) within approximately 0.12 miles of the project property.

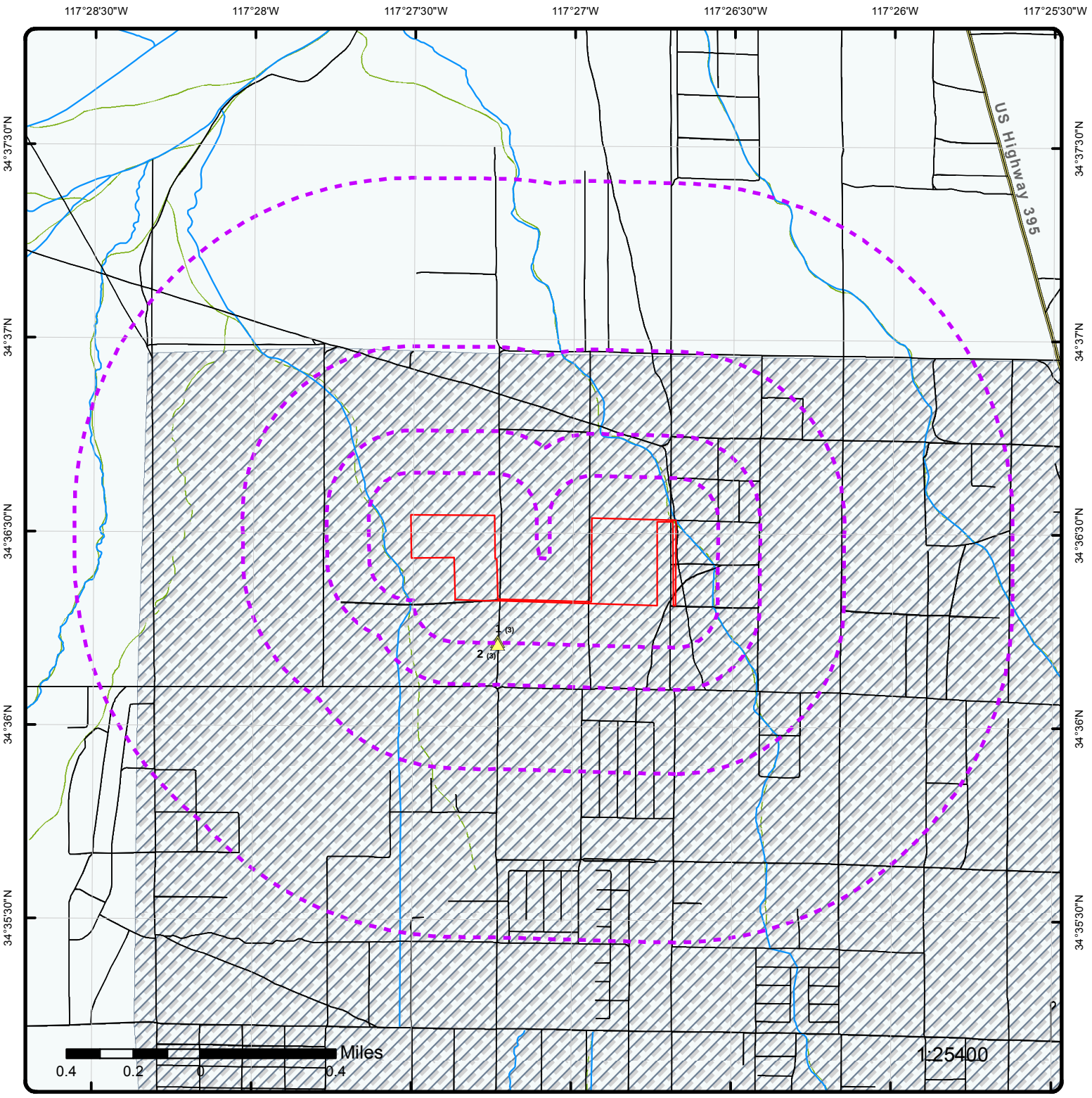
Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CENTURYLINK - ADELANTO - ADLNCADA	19408 KOALA RD ADELANTO CA 92301	SW	0.12 / 641.97	1

EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2017 has found that there are 3 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LEVEL 3 COMMUNICATIONS - KOALA RD	19408 KOALA RD ADELANTO CA 92301	SW	0.12 / 641.97	1
LEVEL 3 COMMUNICATIONS - KOALA RD	19402 KOALA ROAD ADELANTO CA 92301	SW	0.13 / 680.39	2
WILLIAMS COMMUNICATION - ADELANTO	19402 KOALA ROAD ADELANTO CA 92301	SW	0.13 / 680.39	2

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key



Map : 1 Mile Radius

Order No: 20191113048

Address: Site 4, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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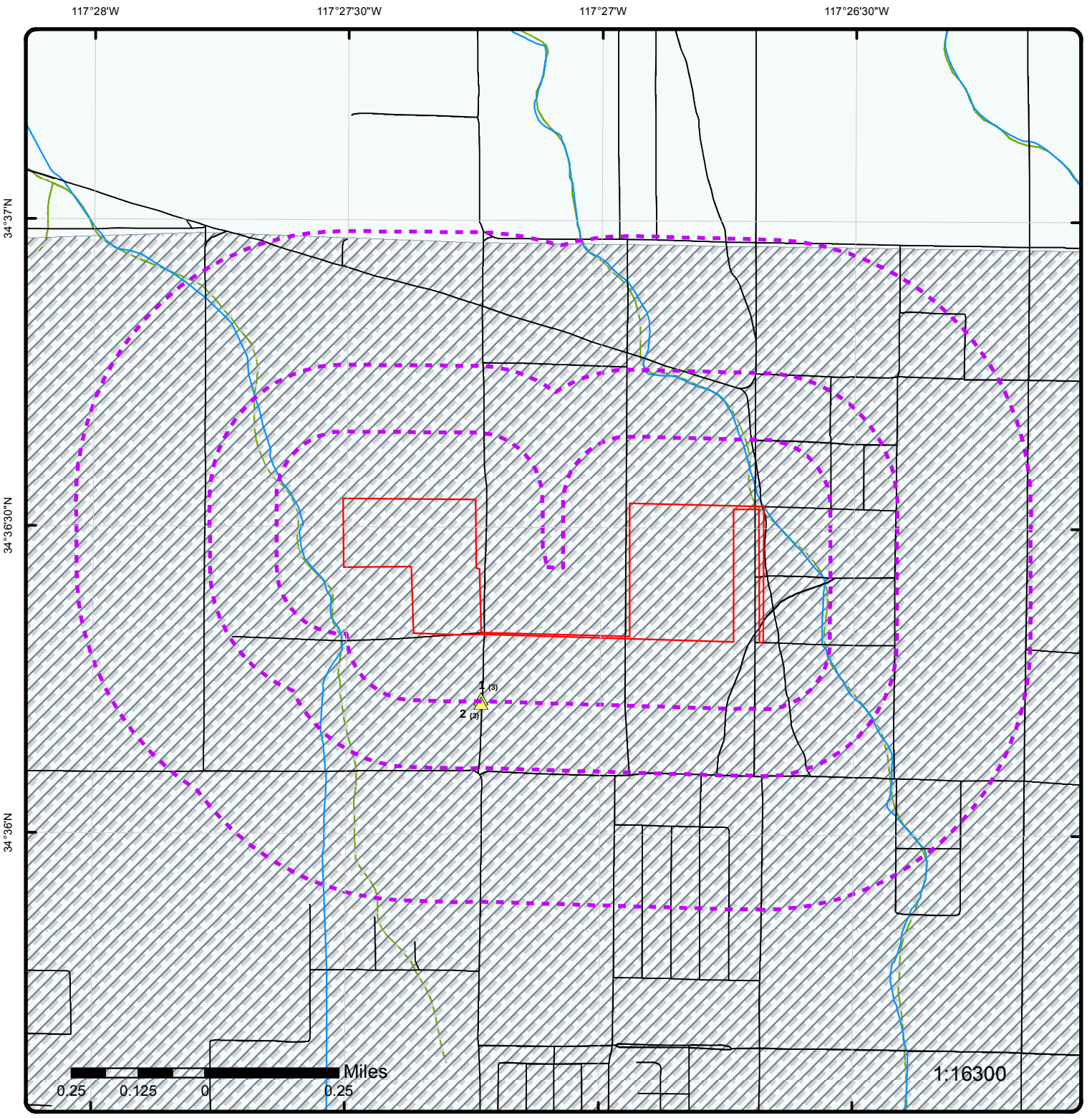

Map : 0.5 Mile Radius

Order No: 20191113048

Address: Site 4, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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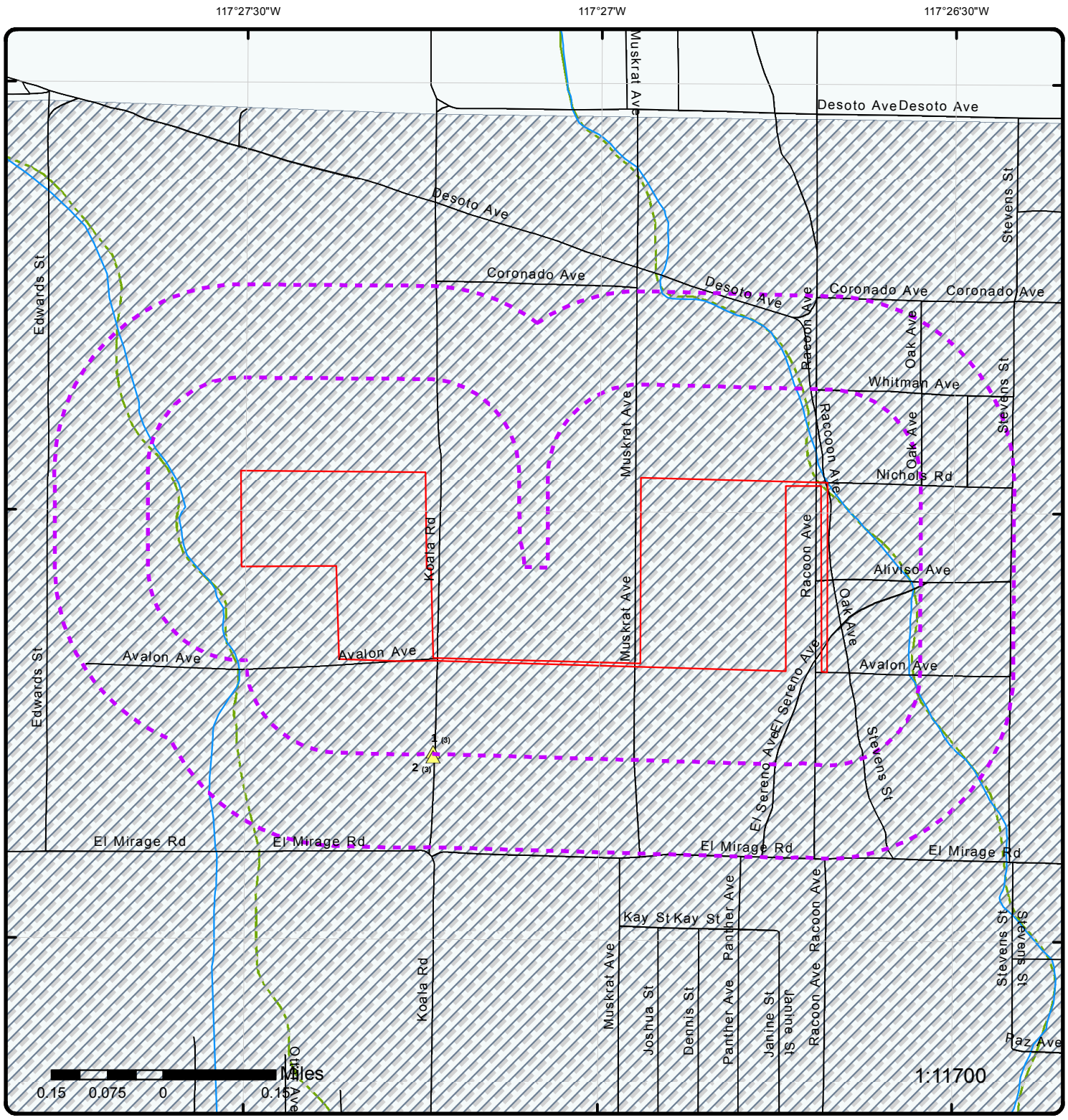

Map : 0.25 Mile Radius

Order No: 20191113048

Address: Site 4, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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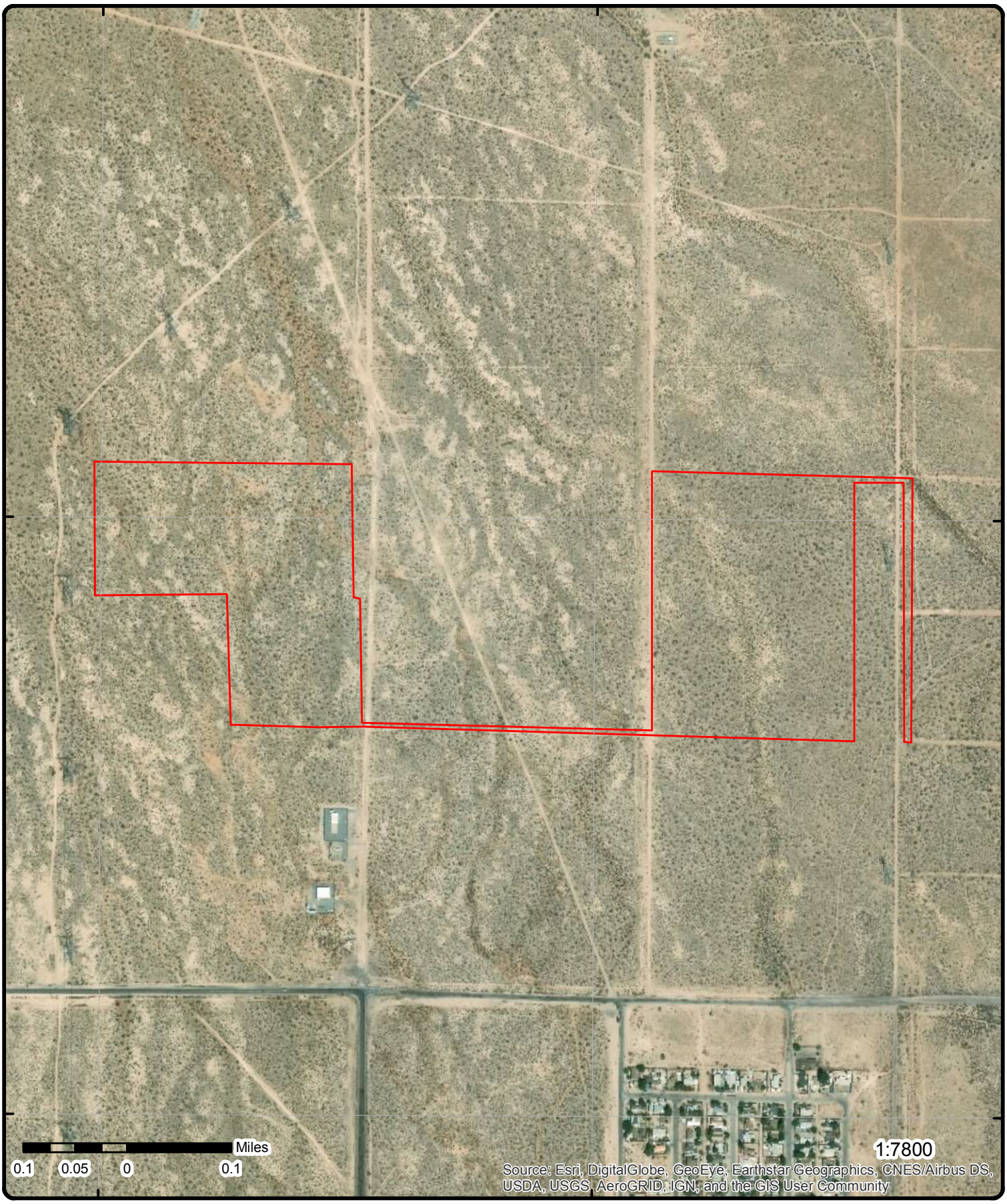


Aerial (2018)

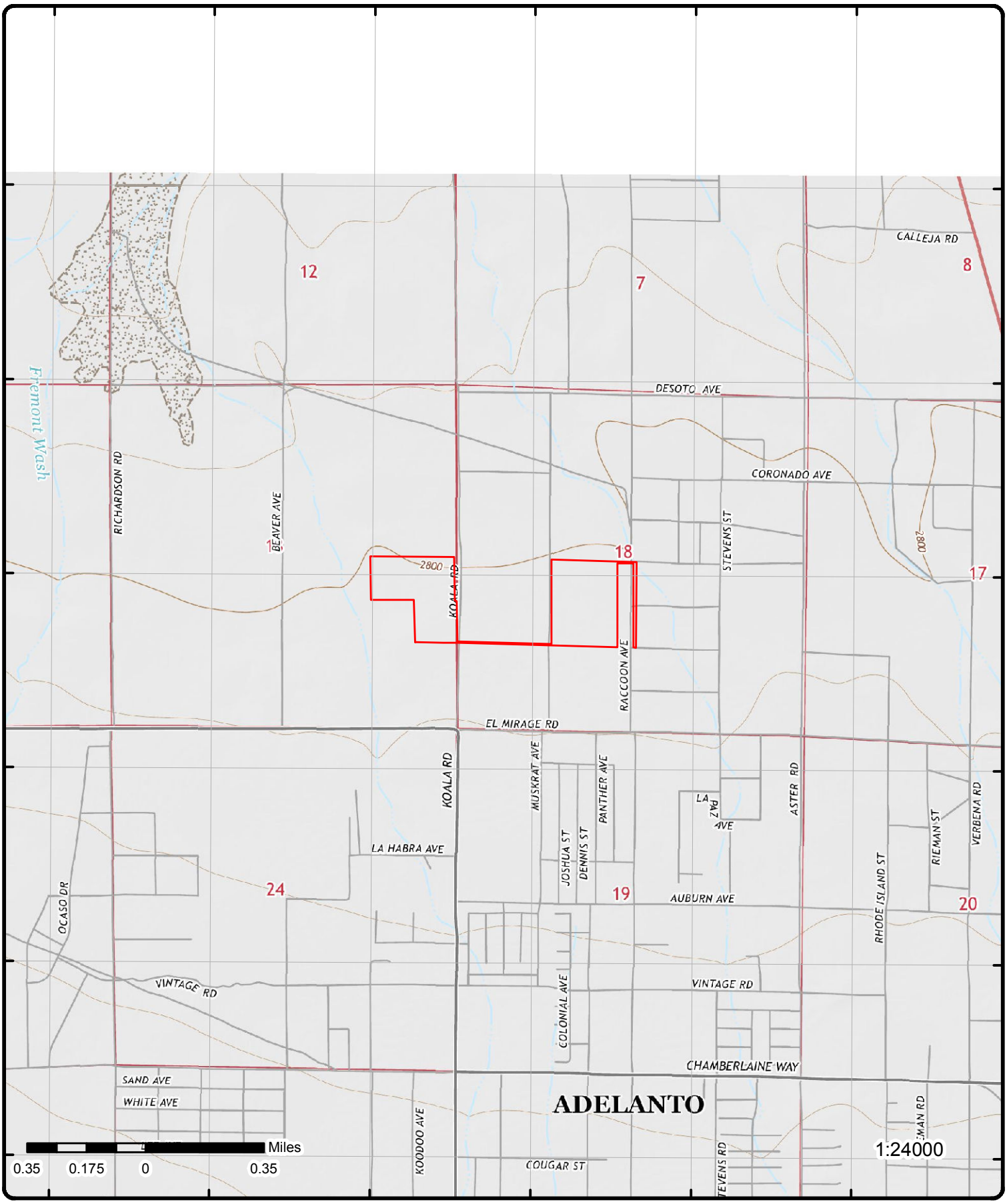
Address: Site 4, Adelanto, CA

Source: ESRI World Imagery

Order No: 20191113048

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Inc.



Topographic Map (2015)

Address: Site 4, Adelanto, CA

Quadrangle(s): Adelanto,CA

Source: USGS Topographic Map

Order No: 20191113048

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 3	SW	0.12 / 641.97	2,814.17 / 9	CENTURYLINK - ADELANTO - ADLNCADA 19408 KOALA RD ADELANTO CA 92301	CERS HAZ

Site ID: 438537
Latitude: 34.600335
Longitude: -117.454030

Regulated Programs

EI Description: Chemical Storage Facilities
EI ID: 10054012

Violations

Violation Date: 04/09/2018
Violation Source: CERS
Violation Program: HMRRP
Violation Division: San Bernardino County Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 04/16/2018. OBSERVATION: The zip code entered for the Owner address in the Business Owner / Operator Identification submitted on 02/27/2018 was incorrect. CORRECTIVE ACTION: Update the Business Owner/Operator Identification Page and submit on the California Environmental Reporting System (CERS).

Violation Description:

Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.

Evaluations

Eval Date: 04/09/2018
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 02/06/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

INSPECTION - BP; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Document Preparer

Entity Name:	Robert Gurdikian
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	Parent Corporation
Entity Name:	CenturyLink
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	CUPA District
Entity Name:	San Bernardino County Fire
Entity Title:	
Address:	620 South E Street
City:	San Bernardino
State:	CA
Country:	
Zip Code:	92415-0153
Phone:	(909) 386-8401

Affil Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	
Address:	1025 Eldorado Blvd, Environmental Management 23-202
City:	Broomfield
State:	CO
Country:	
Zip Code:	80021
Phone:	

Affil Type Desc:	Legal Owner
Entity Name:	Level 3 Communications, LLC
Entity Title:	
Address:	1025 Eldorado Blvd.
City:	Broomfield
State:	CO
Country:	United States
Zip Code:	80021
Phone:	(720) 888-1000

Affil Type Desc:	Operator
Entity Name:	CenturyLink Communications
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	(720) 888-0676

Affil Type Desc:	Identification Signer
Entity Name:	Robert Gurdikian
Entity Title:	Sr. EHS Manager
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Affil Type Desc: Environmental Contact
Entity Name: Robert Gurdikian
Entity Title:
Address: 1025 Eldorado Blvd, Environmental Management 23-202
City: Broomfield
State: CO
Country:
Zip Code: 80021
Phone:

Coordinates

Env Int Type Code: HMBP
Program ID: 10054012
Latitude: 34.600331
Longitude: -117.453919
Coord Name:
Ref Point Type Desc: Unknown

1	2 of 3	SW	0.12 / 641.97	2,814.17 / 9	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCADA 19408 Koala Rd ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0012047
Owner Info: Level 3 Communications, LLC
Mailing Care of:
Mailing Address 1: 1025 Eldorado Blvd, Environmental Management 23-202
Mailing Address 2:
Mailing City: Broomfield
Mailing State: CO
Mailing Zip: 80021

Detail(s)

Permit ID: PT0021784
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 1/31/2014

Permit ID: PT0021783
Status: ACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 1/31/2020

1	3 of 3	SW	0.12 / 641.97	2,814.17 / 9	LEVEL 3 COMMUNICATIONS - KOALA RD 19408 KOALA RD ADELANTO CA 92301	EMISSIONS

2017 Criteria Data

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:
TOGT: .0011
ROGT: .00096635
COT: .001
NOXT: .02704
SOXT: .002
PMT: .00171026156941649899396378269617706237424 5
PM10T: .0017

2017 Toxic Data

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS: 7.83
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 3	SW	0.13 / 680.39	2,814.51 / 9	LEVEL 3 COMMUNICATIONS - ADELANTO - ADLNCACS 19402 Koala Rd ADELANTO CA 92301	SANBERN CUPA

Facility ID: FA0012049
Owner Info: Level 3 Communications, LLC
Mailing Care of:
Mailing Address 1: 1025 Eldorado Blvd, Environmental Management 23-202
Mailing Address 2:
Mailing City: Broomfield
Mailing State: CO
Mailing Zip: 80021

Detail(s)

Permit ID: PT0021781
Status: INACTIVE
Program Element Code: 4241
Permit Desc: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
To: 1/31/2020

Permit ID: PT0021782
Status: INACTIVE
Program Element Code: 4270
Permit Desc: EPCRA FACILITY
To: 1/31/2014

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 3	SW	0.13 / 680.39	2,814.51 / 9	LEVEL 3 COMMUNICATIONS - KOALA RD 19402 KOALA ROAD ADELANTO CA 92301	EMISSIONS

2012 Toxic Data

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2013 Toxic Data

Facility ID: 132902668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
TS:						
Health Risk Asmt:						
Non-Cancer Chronic Haz Ind:						
Non-Cancer Acute Haz Ind:						
2	3 of 3	SW	0.13 / 680.39	2,814.51 / 9	WILLIAMS COMMUNICATION - ADELANTO 19402 KOALA ROAD ADELANTO CA 92301	EMISSIONS

2003 Criteria Data

Facility ID:	131002668	CERR Code:	
Facility SIC Code:	3661	TOGT:	.0006165
CO:	36	ROGT:	0
Air Basin:	MD	COT:	.005824
District:	MOJ	NOXT:	.0202805
COID:	SBD	SOXT:	.000355
DISN:	MOJAVE DESERT AQMD	PMT:	.0003925
CHAPIS:		PM10T:	0

2003 Toxic Data

Facility ID:	131002668	COID:	SBD
Facility SIC Code:	3661	DISN:	MOJAVE DESERT AQMD
CO:	36	CHAPIS:	
Air Basin:	MD	CERR Code:	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2007 Toxic Data

Facility ID:	131002668	COID:	SBD
Facility SIC Code:	3661	DISN:	MOJAVE DESERT AQMD
CO:	36	CHAPIS:	
Air Basin:	MD	CERR Code:	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2008 Toxic Data

Facility ID:	131002668	COID:	SBD
Facility SIC Code:	4813	DISN:	MOJAVE DESERT AQMD
CO:	36	CHAPIS:	
Air Basin:	MD	CERR Code:	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2009 Toxic Data

Facility ID:	131002668	COID:	SBD
Facility SIC Code:	3661	DISN:	MOJAVE DESERT AQMD

CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
CHAPIS:
CERR Code:

2010 Toxic Data

Facility ID: 131002668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

2011 Toxic Data

Facility ID: 131002668
Facility SIC Code: 4813
CO: 36
Air Basin: MD
District: MOJ
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
COID: SBD
DISN: MOJAVE DESERT AQMD
CHAPIS:
CERR Code:

Unplottable Summary

Total: 4 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		KOALA ROAD, NORTH OF EL MIRAGE ROAD	ADELANTO CA	92301	820120311
CDL		4 MI W OF KOALA RD ON CRIPPON RD	CA		820124541
EMISSIONS	AEROCHEM INC	HCR BOX 80A EL MIRAGE RD	ADELANTO CA		861201805
SWF/LF	Mirage Agricultural Services	NEC Meridian and El Mirage Road	El Mirage CA		876209789
		***Operational Status	Activity:*** Active | Chipping and Grinding Activity Fac./ Op.		

Unplottable Report

Site:
KOALA ROAD, NORTH OF EL MIRAGE ROAD ADELANTO CA 92301 CDL

Clue: 2002-08-081
Date: 8/20/2002
County: SAN BERNARDINO
Lab Type: L
Lab Type Description: Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

Site:
4 MI W OF KOALA RD ON CRIPPON RD CA CDL

Clue: 1997-11-077
Date: 11/16/1997
County: SAN BERNARDINO
Lab Type: A
Lab Type Description: Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site: ***AEROCHEM INC***
HCR BOX 80A EL MIRAGE RD ADELANTO CA EMISSIONS

1987 Criteria Data

Facility ID:	700000246	***CERR Code:***	
Facility SIC Code:	3599	***TOGT:***	82.4
CO:	36	***ROGT:***	69.88344
Air Basin:	MD	***COT:***	
District:	MOJ	***NOXT:***	9
COID:	SBD	***SOXT:***	
DISN:	MOJAVE DESERT AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

1987 Toxic Data

Facility ID:	700000246	***COID:***	SBD
Facility SIC Code:	3599	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

1990 Criteria Data

Facility ID:	700000246	***CERR Code:***	
Facility SIC Code:	3599	***TOGT:***	128
CO:	36	***ROGT:***	108.5568
Air Basin:	MD	***COT:***	1.2
District:	MOJ	***NOXT:***	9
COID:	SBD	***SOXT:***	

DISN:	MOJAVE DESERT AQMD	***PMT:***	.2
CHAPIS:		***PM10T:***	.18

1990 Toxic Data

Facility ID:	700000246	***COID:***	SBD
Facility SIC Code:	3599	***DISN:***	MOJAVE DESERT AQMD
CO:	36	***CHAPIS:***	
Air Basin:	MD	***CERR Code:***	
District:	MOJ		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

Site: ***Mirage Agricultural Services***
NEC Meridian and El Mirage Road El Mirage CA

SWF/LF

SWIS No:	36-AA-0502	***Last Updated on:***	7/23/2019
Permit Status:	Notification	***Permit Date:***	7/19/2019
Operator Phone:	3105057170	***County:***	San Bernardino
Operator Addr 1:		***Latitude:***	34.60211
Operator Addr 2:	1209 Manhattan Ave., Ste. 296	***Longitude:***	-117.583
Operator City:	Manhattan Beach	***GIS Source:***	Map
Operator State:	CA	***Latitude (GIS):***	34.602110000000003
Operator Zip:	90266	***Longitude (GIS):***	-117.583
Operator:	Progressive Organics Materials, LLC		
Land Use Name:			
File Description:	SWIS Data File - Includes basic information on each facility in the database; SWIS GIS Data File is designed for inclusion into GIS software as a data table - Includes basic information on each facility in the database		

Owner Information

Owner:	Phelan Pinon Hills Community Serv. Dist.
Owner Phone:	7608681212
Owner Address1:	
Owner Address2:	4176 Warbler Rd
Owner City:	Phelan
Owner State:	CA
Owner Zip:	
Last Updated on:	7/22/2019 4:32:38 PM

Owner Information (GIS)

Site ID:	11657
Unit ID:	12338
Owner:	Phelan Pinon Hills Community Serv. Dist.
Enfor Agent:	County of San Bernardino
County ID:	36
Zip:	92301

Unit Information

Unit No:	01	***Throughput:***	200
WDR No:		***Throughput Units:***	Tons/day
Regulatory Status:	Notification	***Capacity:***	
Operational Status:	Active	***Capacity Units:***	
Inspect Frequency:	Quarterly	***Acreage:***	
Category:	Composting	***Disposal Acreage:***	
Closure Date:		***Remaining Capacity:***	
Closure Type:		***Last Updated on:***	7/22/2019
Activity:	Chipping and Grinding Activity Fac./ Op.		
Program Type:			
Accepted Waste:	Green Materials		

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Aug 20, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Aug 20, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Aug 20, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Aug 20, 2019

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Aug 20, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Aug 26, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Aug 26, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Aug 26, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Aug 26, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Aug 26, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Aug 26, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jun 11, 2019

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jun 11, 2019

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Oct 8, 2019

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Aug 20, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Aug 20, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Oct 1, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Oct 1, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Oct 1, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Aug 19, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Oct 1, 2019

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Jul 17, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jul 17, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Oct 8, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 17, 2019

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Oct 8, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Sep 11, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Oct 1, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Sep 23, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jul 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Oct 1, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jul 17, 2019

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Oct 4, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Aug 19, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

County

San Bernardino County - CUPA List: SANBERN CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in San Bernardino County. This list is made available by San Bernardino County Fire Department which is the CUPA for all areas of the County except the city of Victorville.

Government Publication Date: Oct 17, 2019

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Nov 15, 2018

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Aug 12, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Sep 26, 2019

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Aug 20, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: May 3, 2019

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Oct 1, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: May 31, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jul 17, 2019

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.Y

Government Publication Date: Oct 17, 2019

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Aug 27, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Jul 16, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Oct 1, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jul 15, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Jul 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Jul 17, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Meg Haile

Assistant Scientist

PROFESSIONAL EXPERIENCE

Meg is an assistant scientist in Terracon's Tustin, California office, she transferred from the Houston, Texas office in October of 2019. In the Tustin office she helps prepare Phase I Environmental Site Assessment (ESA) reports. These efforts involve field survey, interviews with property owners, Environmental Data Resource reports and file reviews at local county and city regulatory offices. As required, each ESA is prepared and finalized in accordance with new ASTM Standards. In the Houston office Meg worked within the Regulatory Compliance department. There she assisted project managers in preparation of Stormwater Pollution Prevention Plans (SWPPPs), Spill Prevention Control and Countermeasures (SPCCs), Municipal Separate Storm Sewer System permits (MS4) and Texas Department of Transportation (TXDOT) outfall mapping. She added in the field monitoring and sampling to confirm her clients were in compliance with necessary permits.

PROJECT EXPERIENCE

Solar Farm – Adelanto, California

Meg aided in the site reconnaissance of vacant land to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

Food Processing LECA – Vernon, California

Meg aided in the drafting of a Limited Environmental Compliance Assessment determining if the facility was in compliance and up to date with all necessary environmental permits. This included reaching to government agencies to obtain current permits and inspecting documents provided by the client to determine what corrections needed to be made.

Food Processing ESA – Vernon, California

Meg aided in the site reconnaissance of an industrial food production facility to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

EDUCATION

Bachelor of Science,
Wildlife and Fishery Science,
Texas A&M University, College Station, TX

WORK HISTORY

Terracon Consultants, Inc.,
Assistant Scientist,
July 2019 – Present

Texas A&M University,
Student Researcher,
2017-2018

DBS Allergy,
Allergy Technician,
2016-2019

Jennifer S. Van

Project Manager



PROFESSIONAL EXPERIENCE

Ms. Van is an Environmental Group Manager in Terracon's Orange County, California Office. She has over seven years of experience in Environmental Services; Phase I Environmental Site Assessments (ESAs), Limited Subsurface Investigations (LSIs), Spill Prevention, Control and Countermeasure Plans, Radon Measurement Provider. In addition, Ms. Van has some experience with regulatory compliance. Ms. Van assists with client and team management.

PROJECT EXPERIENCE

Environmental Site Assessment (ESAs):

Performed and managed hundreds of ESAs in California and several in Hawaii and Alaska for industrial, commercial, residential, and agricultural properties. Managed long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers and other real property owners. Understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water and groundwater. Is experienced in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined in Section 312.10 of 40 CFR 312.

Radon Assessments

Performed and managed over 10 radon assessments including commercial and residential in California.

Limited Subsurface Investigations (LSIs):

Performed and managed over 10 LSI's in California. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data.

Spill Prevention, Control And Countermeasure Plans (SPCCs)

Ms. Van has experience with federal and state requirements for Spill Prevention, Control and Countermeasure Plans for Tier I and II qualified facilities.

EDUCATION

Bachelor of Science,
Environmental Sciences: Natural Sciences.
Minor: Business Administration
University of California Riverside, California, 2011.

Masters: Environmental Engineering
California State University, Fullerton, 2018

CERTIFICATIONS

24-Hour AHERA Asbestos Abatement Building Inspector
40-Hour OSHA HAZWOPER
National Radon Proficiency Program
Residential Measurement Provider

WORK HISTORY

Terracon Consultants, Inc. (Tustin, CA). Environmental Group Manager
February 2018 to Present

Terracon Consultants, Inc. (Irvine, CA). Senior Staff Scientist
2014 to February 2018

Terracon Consultants, Inc. (Irvine, CA). Staff Scientist
August 2011 to 2014

Regulatory Compliance, Buena Park and Tipton, California
Project Manager for two regulatory compliance projects in Buena Park and Tipton, California, which included refrigeration and multiple dairy facilities.

Military Base Phase I ESAs and Soil Management Plans – San Diego County, California
Project Manager of ESAs and SMPs of over 100 sites for proposed telecommunication small cell locations within naval bases located within the San Diego County. Findings of the ESAs were utilized in creation of the SMPs, which was implemented at the installation of telecommunications utilities on the various bases.

Automotive Body Shop Portfolio, California
Portfolio assistant manager of environmental consulting services including Phase I ESA. The purpose of the services were to assist a client with a large acquisition of properties.

Resumes

Islam (Sami) R. Noaman, EIT

Senior Associate / Senior Project Manager



PROFESSIONAL EXPERIENCE

Mr. Noaman is an Environmental Department Manager with track record in client management, management of phases of environmental site assessments (ESAs), industrial hygiene services, business environmental risk reviews, site characterizations, regulatory compliance services, and remedial investigation. He possesses excellent analytical, problem solving, advisory, and team management skills.

PROJECT EXPERIENCE

Stormwater Prevention and Pollution Control Plan (SWPPP):
Managed SWPPP for numerous industrial sites in Southern California. Scope of the work typically included client and agency coordination, implementation of guidelines required by the state of California Water Resources Board (SWRB), and preparation of documentations for submittals to the SWRB. In addition, I have managed several limited regulatory compliance projects (annual submittals and Level 1 ERA reporting) for industrial stormwater, to achieve compliance in accordance with the NPDES general permit requirements.

Limited Subsurface Investigations (LSIs):
Performed and managed hundreds of LSIs in California, New Jersey, and New York. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data to pursue closure through state and federal programs including Los Angeles County Site Mitigation Unit, the California Regional Water Quality Control Board, and the Department Of Toxic Substances Control Voluntary Cleanup Programs (VCP).

Hazardous Materials Surveys:
Mr. Noaman is the Industrial Hygiene Manager in the Orange County, California office. He managed numerous hazardous materials surveys in the state of california including, but not limited to, asbestos, lead in paint, mold, pcbs, and mercury-containing equipment.

EDUCATION

Bachelor of Science, Chemistry/Environmental Chemistry, 2002, City University of New York, City College of New York

Pursuing Masters in Environmental Engineering (California State University Fullerton-expected graduation date Spring 2019)

CERTIFICATIONS

Certified Engineer In Training (CA) Certification No. EIT 171371
40-Hour OSHA Hazardous Waste Operations & Emergency Response Training Course

WORK HISTORY

Terracon Consultants, Inc. (Irvine, CA), Environmental Group/Department Manager, June 2012 to Present

Smith Emery GeoServices (SEG), (Los Angeles, CA), Project Engineer, August 2008 to June 2012

KLK Environmental Group LLC. (Kearny, NJ). Environmental Scientist -August 2003 to June 2008

UniChem Inc. (Kearny, NJ). Staff Environmental Chemist - August 2002 to June 2003

Islam (Sami) R. Noaman, EIT (continued)

Major Department Store Commercial Retail Portfolio:
Environmental team lead for evaluating environmental site conditions and due diligence review, including overseeing Phase I Environmental Site Assessments and Phase II Environmental Site Investigations for over thirty retail facilities with automotive maintenance across California. Findings from subsurface investigations were used to support regulatory closure of select facilities to facilitate a real estate transaction across the United States.

Industrial Facility – Land-use Change/Private School, Los Angeles, CA:
Environmental consulting services including Phase I Environmental Site Assessments (ESA) due diligence support, subsurface investigation activities to evaluate environmental media including soil, soil gas and indoor / outdoor air. Services included a land-use change from an industrial facility to a private school. Prepared environmental investigation reports, regulatory interaction, corrective action design for indoor air mitigation, and work plan for management of environmental media.

Retail Shopping Center – Former Dry Cleaners Facility – DTSC, Fremont, CA:
Conducted extensive site investigation activities to evaluate the magnitude and extent of chlorinated solvents identified in the vicinity of a former dry cleaners facility, including an evaluation of groundwater, soil, soil-gas and indoor vapors as a result of a chlorinated solvent plume. Project responsibilities consisted of direct support and interaction with client, client legal team and DTSC representatives to manage the closure process, including the preparation of work plans and environmental investigation reports, risk-based human health evaluation, and response actions.

Underground Storage Tank Assessment and Monitoring – West Los Angeles, CA:
Assisted property owner with the regulatory closure of former underground storage tank (UST) site located in West Los Angeles, California. The project scope included historical research of past site use and site characterization, including soil, groundwater and soil gas assessments, followed by groundwater monitoring until closure was achieved.

Automated Fuel Dispensing Facilities – Camp Pendleton, California:
Project scope included environmental and geotechnical investigations at six fueling existing/proposed facilities within Camp Pendleton, California. The project consisted of construction of new buildings, canopies, pavements, retaining walls, slopes, and installation of underground storage tanks (USTs), and other site facilities. Served as the environmental group leader.

Emerson College, Hollywood, California:
Conducted comprehensive investigation and assisted the client through enrolling and interacting with the LAFD regarding USTs found during construction activities. Provided construction management oversight to manage impacted soils and assisted the client in waste disposition, permitting and regulatory compliance interaction. A total of 45,000 cubic yards of soil was removed from the site and disposed at an off-site facility, prior to the construction of a mid-rise school complex. Support services allowed for significant savings in construction, on an expedited timeline in concert with the construction schedule.

Los Angeles Unified School District (LAUSD Sites):
Managed soil characterization for export/import soils for over nine Los Angeles Unified School District (LAUSD) sites. Prepared Sample Strategy Plans (SSP) for stockpiled and in-place soils, oversaw the sampling, and prepared soil certification reports under the supervision of a professional geologist for submittal to the LAUSD Office of Environmental Health.

Islam (Sami) R. Noaman, EIT (continued)

Newton Plastics, Newton, NJ:

Managed the removal of two 12,000-gallon (solvents & gasoline containing) USTs from a plastic products manufacturing facility as a part of transaction deal. Project tasks included, work plan preparation, regulatory officials interface, client contact/coordination, oversight of removal activities, and report preparation. No further action letter from NJDEP was obtained for the client. The property value was retained for the client with our consulting services.

Eagle Electric, Queens, NY:

Responsibilities were to manage the cleanup of former Coal storage rooms in basement of a landmark building in Queens, NY. The cleanup activities included, hauling of approximately 425 tons of Class N-1 Hazardous materials, managed and ensured safety of eight to twelve crew, handling of waste manifests, and coordination for transportation / disposal and client interface.

AROL Chemicals, Newark, NJ:

Managed Phase I and Phase II ESA of chemical manufacturing facility. Scope of Phase II ESA included, the removal of three 12,000-gallon USTs, excavation and disposal of impacted soils.

KeySpan Energy, NY:

Responsibilities include inspection and maintenance of client boilers and tanks systems. Objectives were to prevent scaling/rusting in the boiler systems resulting from the plant operations to maintain operations efficiency. Goals were achieved for the client by developing environmentally friendly chemical reagents (pH controlled) to mitigate the concerns at the plant, boilers maintenance issues were resolved and steady business was created for the company.

The HACH Company, OH:

Implementing unique techniques producing Ferrozine - Iron- reagent for determining trace levels of iron in chemical reagents and glycols. Ferrozine can also be used to analyze samples containing magnetite (black iron oxide) or ferrites.

KIWA of The Netherlands:

Research and development of new synthetic methods of alkali Ferrates including, Potassium, Sodium, and Barium ferrates, an environmentally friendly oxidative reagents used in wastewater treatment for municipal and industrial facilities.

Resumes

Fabio M. Minervini, PG

Environmental Department Manager



PROFESSIONAL EXPERIENCE

Mr. Minervini is a Geologist (P.G.) licensed to practice in the states of California and Oregon with over 20 years of experience in environmental services. He is familiar with all aspects of the environmental industry. During his career, he has managed hundreds of investigation and remediation projects involving soil, groundwater, and soil gas issues; vapor intrusion issues from migrating impacted soil gas; and dissolved plumes, at times commingled with plumes originating at other sources. Mr. Minervini has evaluated and interpreted assessment data, as well as designed groundwater monitoring programs. His experience includes proposing and evaluating the feasibility of various remedial technologies and subsequently managed the engineering design, installation, and operation and maintenance of a variety of remedial systems. In addition, he has provided litigation support related to hydrocarbon contamination at retail fuel stations.

Mr. Minervini has interacted with a variety of regulatory agencies in California in the form of maintaining projects in compliance with agency requirements, as well as proposed work in the voluntary assistance programs on behalf of his clients.

Mr. Minervini has also been responsible for the management of non-technical duties such as conducting job interviews and hiring decisions, as well as annual performance reviews and compensation adjustments, for a team of more than 10 employees.

EDUCATION
Bachelor of Science, Geology, University of California Los Angeles, 1991

REGISTRATIONS
Professional Geologist: California, No. 7861

Registered Geologist: Oregon, No. G2477

CERTIFICATIONS
40-Hour HAZWOPER

Petroleum Education Council, Certification No. 1001022451

Radiation Safety and Use of Nuclear Gauges, Certification No. 21966

AFFILIATIONS
Western States Petroleum Association (WSPA)

National Ground Water Association

Other Affiliations

PROJECT EXPERIENCE

Tesoro Refining and Marketing Company, LLC
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Lead Scoper (and Lead Executer after September 2008) for the Orange County Portfolio (yearly revenue approximately $2.5 million). Managed technical and financial aspects associated with the assessment and remediation of leaking underground storage tank cases in Orange County, California.

Fabio M. Minervini, PG (continued)

ConocoPhillips
Managed site assessment and characterization, groundwater investigation and monitoring, and site remediation for service stations impacted by petroleum hydrocarbon releases in San Mateo County, California.

Atlantic Richfield Company (ARCO)
Managed the assessment of releases from underground storage tanks, the investigation and monitoring of dissolved hydrocarbon plumes, and the remediation of ARCO Stations in the California Desert/East Los Angeles Portfolio.

California Department of General Services
Managed assessment and monitoring of dissolved petroleum hydrocarbons from leaking underground storage tanks at various sites in Merced, Santa Barbara, Riverside, and San Diego Counties, California. Obtained case closure from the Riverside County Department of Environmental Health Services for the forest fire station in Temecula, California.

Kern County General Services Division
Managed ground water monitoring and remediation of the dissolved petroleum hydrocarbons plume originated from the leak of an underground tank storing gasoline at the fire station in Bear Valley Springs, California.

Orange County District Attorney
Managed the third party technical oversight project pertaining to the legal settlements between the Orange County District Attorney Office and Atlantic Richfield Company, and Shell Oil. The role of the third party consultant was to independently review the corrective action at ARCO and Shell gas stations in Orange County, California and provide recommendations, as warranted.

UST Fund Commingled Plume Site No. 00024
Managed under the California Underground Storage Tank Reimbursement Fund Account the site assessment, remediation, and monitoring of the petroleum hydrocarbon impacted soil and ground water at the commingled plume site consisting of ARCO Station 0087 and former Unocal Station 5865 in Hawthorne, California.

Dunn-Edwards Corporation
At a property in Escondido, California, formerly a Unocal service station, managed multiple phases of investigation and characterization of petroleum hydrocarbon impacted soil and ground water.

Dunn-Edwards Corporation
At a property leased in Long Beach, California, obtained a ”no further action” letter from the City of Long Beach Department of Environmental Health Services for the self-initiated site assessment related to the operation and maintenance of a 10,000-gallon underground storage tank storing paint thinner.

Fabio M. Minervini, PG (continued)

Boeing Realty Corporation
Conducted and reported site characterization activities related to the contamination by diesel fuel at the STEVS Unit on the Boeing plant in Huntington Beach, California.

Bradmore Realty Investment Company
Conducted Phase I Investigations for real estate transactions at sites in Los Angeles County, California.

ARCO Products Company
At various service stations in Los Angeles, Orange, and San Diego Counties, California, managed the site characterization, remediation, and groundwater monitoring programs. Managed the removal and replacement of underground storage tanks, and the complete demolition of service stations. Provided technical support in litigation related to petroleum hydrocarbon contamination at service stations in Orange County, California.

Various Responsible Parties
Reviewed files related to environmental issues at various agencies in Southern California.

San Diego Naval Station
Performed investigation and risk assessment study for petroleum hydrocarbon- and metals-impacted sites in the San Diego Harbor, California.

Marine Corps Air Base
Conducted pilot-scale ground water extraction test for remediation of the dissolved-phase trichloroethylene (TCE) and tetrachloroethylene (PCE) plumes at the base in Tustin, California.

Coto de Caza, Private Residential Community
Assisted in the fixation of lead project at the gun range in Coto de Caza, California.

Allied-Signal Chemical Plant
Conducted soil-gas investigation of halogenated volatile organics plume in vadose zone at the plant in El Segundo, California.

Shell/Parsons Reservoirs
Performed two phases (floor and berms) of mitigation by soil blending, remediation by thermal desorption, and closure with low permeability cap of crude oil reservoirs at the Tosco Refinery in Carson, California (former property of Shell Oil Company). Subcontracted by The Ralph M. Parsons Company for both environmental and geotechnical activities.

Reichhold Chemical Plant
Conducted soil-gas investigation of polychlorinated biphenyls (PCBs) in the vadose zone installing multiple completion wells with dual tube air percussion Stratex rig at the plant in Azusa, California.

Fabio M. Minervini, PG (continued)

Caltrans
Assisted in the storm water facilities retrofit evaluation for the Santa Monica Bay watershed in Los Angeles County, California.

Grayson Power Plant
Conducted HydroPunch investigation of trichloroethylene (TCE) Plume in vadose zone and ground water at the plant in Glendale, California.

Shell Offshore, Inc
Performed downhole pressure and temperature data collection, and reservoir interpretation analysis on production platform at Eugene Island Field, Block 331, Gulf of Mexico.

Conoco Oil, Inc.
Assisted in the drill stem test of multiple zones at the West Delta Field, Block 96, Gulf of Mexico.

Exxon, U.S.A.
Assisted in the perforation of multiple productive zones at the South Pass Field, Block 89, Gulf of Mexico.

Oryx Energy Company
Assisted in the flow test of the Upper Zone on the semi-submersible rig Ocean Voyager at the Mississippi Canyon Field, Block 445, Gulf of Mexico.

Leighton & Associates
Performed soil observation, sampling, and testing during mass grading and utilities installation as part of the San Joaquin Hills Transportation Corridor (Wood Canyon) Project conducted by the Mission Viejo Company in the Laguna Hills.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms

Term/Acronym	Description
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

Description of Selected General Terms and Acronyms

Term/Acronym	Description
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water 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. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix E PHASE I ENVIRONMENTAL SITE ASSESSMENTS

E.6 PHASE I ENVIRONMENTAL SITE ASSESSMENT BALDY MESA SOLAR PHASE II SITE 5



Phase I Environmental Site Assessment

Baldy Mesa Solar Phase II – Site 5

North of El Mirage Road, East of Raccoon Avenue,

and West of Highway 395

Adelanto, San Bernardino County, California

January 20, 2020

Terracon Project No. 60197507.5



Prepared for:

Sustainable Power Group, LLC (sPower)
Long Beach, California

Prepared by:

Terracon Consultants, Inc.
Tustin, California

January 20, 2020

Terracon

Sustainable Power Group, LLC (sPower)
5000 East Spring Street, Suite 130
Long Beach, California 90815

Attn: Mr. Dallas Pugh
P: (562) 348-1119
E: dallas.pugh@spower.com

Re: **Phase I Environmental Site Assessment**
Baldy Mesa Solar Phase II – Site 5
North of El Mirage Road, East of Raccoon Avenue, And West of Highway 395
San Bernardino **County**, California 92301
Terracon Project No. 60197507.5

Dear Mr. Pugh:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Phase I Environmental Site Assessment (ESA) report for the above-referenced site. This assessment was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019.

We appreciate the opportunity to be of service to you on this project. In addition to Phase I services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed **information on all of Terracon's** services please visit our website at www.terracon.com. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Jennifer S. Van
Environmental Group Manager

Islam (Sami) R. Noaman, E.I.T.
Environmental Department Manager

Fabio M. Minervini, P.G.
California Licensed Geologist No. 7861

Attachments

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APPENDIX A	Exhibit 1 - Topographic Map, Exhibit 2 - Site Diagram North – Plots 1 through 6 Exhibit 2A - Site Diagram South – Plots 7 through 20
APPENDIX B	Site Photographs
APPENDIX C	Historical Documentation and User Questionnaire
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EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019 and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The ESA was conducted under the supervision or responsible charge of Jennifer S. Van, Environmental Professional. Jennifer S. Van and Meg Haile performed the site reconnaissance on November 26, 2019.

Findings and Opinions

A summary of findings is provided below. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

Site Description and Use

The site is located approximately 1,350 feet north of El mirage Street, 100 feet east of Raccoon Avenue and 1,500 feet east of Highway 395 in Adelanto, San Bernardino County, California. The site consists of approximately 330 acres of undeveloped land identified herein as Plots 1 through 20. At the time of reconnaissance, the site was observed to be unoccupied.

Historical Information

Based on review of historical information, the site consisted of undeveloped land and an unnamed creek from as early as 1948 through the 1950s. Unimproved roads were observed throughout the site in the 1970s, 1980s, and the mid-2000s.

The surrounding properties consisted of undeveloped land, an unnamed creek to the north and east and US highway 395 to the east from as early as 1948 through the present. Additional trails and unimproved roads were apparent to the south, east, and west of the site from the 1950s through the 1990s, when a utility easement was observed to the west of the site.

Records Review

Terracon reviewed selected federal and state environmental regulatory databases as well as responses from state and local regulatory agencies. The site was not identified on the regulatory database. The report listed two facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties, and do not appear to represent recognized environmental conditions (RECs) to the site at this time.

Site Reconnaissance

During the site reconnaissance, Terracon observed underground fiber optic cable markers, high pressure gas pipeline markers (associated with the Kern Transmission Co.), trash and debris and construction / demolition debris, consisting of concrete and wood.

A dumping and disposal area was observed on the southeastern corner of Plot 6 of the site, within an unnamed creek, during the site reconnaissance. The dumped area consisted of approximately 0.2-acres that contained household wastes; paper, plastic, and glass, furniture, an automobile, car parts, appliances, tires, wood, and dumped plastic containers that appeared to contain petroleum hydrocarbons. Heavy petroleum hydrocarbon staining was observed in the vicinity of the dumping area. Based on site observations and observed petroleum hydrocarbon staining, the approximately 0.2-acre dumping area on the southeastern corner of Plot 6 represents a REC to the site.

Adjoining Properties

The property to the north consisted of undeveloped land and 10550 Colusa Road, 20825 Aster Road, and 20779 Aster Way. The property to the east consisted of undeveloped land and 10350 Colusa Road 10522 Colusa Road, 21090 Aster Road and 20938 Aster Way. The property to the south consists of undeveloped land and El Mirage Road. The property to the west consists of undeveloped land and a utility easement. The central adjoining property consists of undeveloped land.

Significant Data Gaps

Significant data gaps were not identified.

Conclusions

We have performed a Phase I ESA consistent with the procedures included in ASTM Practice E1527-13 of Baldy Mesa Solar Phase II – Site 5 located approximately 1,350 feet north of El mirage Street, 100 feet east of Raccoon Avenue and 1,500 feet east of Highway 395 in Adelanto, San Bernardino County, California. The following REC was identified in connection with the site.

- **Dumping Site At the Southeastern Portion of Plot 6:** Based on the site observation, significant petroleum hydrocarbon staining, and widespread disposal of various unknown materials, the 0.2-acre dumping/disposal area located on the southeastern portion of Plot 6 represents a REC to the site.

Recommendations

Based on the scope of services, limitations, and conclusions of this assessment, Terracon recommends the following additional actions.

- **Additional Investigation:** Terracon recommends conducting additional investigation to evaluate subsurface conditions associated with the identified RECs.

1.0 INTRODUCTION

1.1 Site Description

Site Name	Baldy Mesa Solar Phase II – Site 5
Site Location/Address	Approximately 1,350 feet north of El mirage Street, 100 feet east of Raccoon Avenue and 1,500 feet east of Highway 395 in Adelanto, San Bernardino County, California (APNs: 046062120, 046062121, 046017133, 046016135, 045902606, 046062116, 046062117, 046062103, 046061217, 046061216, 045936110, 045936122, 045936136, 045937122, 045937123, 045937124, 045937125, 045937126, 045937127, 045937128, 045937129, 045936119, 045936118, 045936152, 045936151, 045936108, 045936150, 045936149, 045936106, 046062125, 046063127, 046063130, 046063122 and 046063123).
Land Area	Approximately 330 Acres
Site Improvements	None
Anticipated Future Site Use	Commercial Use Solar Farm
Purpose of the ESA	Conditional use permit for development and operation of a photovoltaic solar utility plant.

The location of the site is depicted on Exhibit 1 of Appendix A, which was reproduced from a portion of the USGS 7.5-minute series topographic map. The site and adjoining properties are depicted on the Site Diagram, which is included as Exhibits 2 and 2A of Appendix A. Acronyms and terms used in this report are described in Appendix F.

1.2 Scope of Services

This Phase I ESA was performed in accordance with our Master Service Agreement dated September 18, 2017, Terracon Proposal No. P60197507, and Task Order 47 executed November 8, 2019, and was conducted consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The purpose of this ESA was to assist the client in developing information to identify RECs in connection with the site as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual noninvasive reconnaissance of the site and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-13 contains a new definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and

liquid at the surface or subsurface, and vapor in the subsurface." By including this explicit reference to migration in ASTM E1527-13, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the site.

1.3 Standard of Care

This ESA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. Where appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

Phase I ESAs, such as the one performed at this site, are of limited scope, are noninvasive, and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this ESA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated – but not eliminated – through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations, ASTM Deviations and Data Gaps

Based upon the agreed-on scope of services, this ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e. evaluation of the presence of vapors within a building structure), business environmental risk evaluations, or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Pertinent documents are referred to in the text of this report, and a separate reference section has not been included. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- Due to dense vegetation and terrain, the central portions of Plot 6 of the site could not be accessed and surface conditions could not be observed.
- At the issuance of this report, a response has not been received from the Adelanto City Clerk, Mojave Desert Air Pollution Control District. Based on a review of the historical information and the regulatory database, the absence of these responses do not represent a data gap to the site.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

This report represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This ESA report is prepared for the exclusive use and reliance of Sustainable Power Group, LLC (sPower). Use or reliance by any other party is prohibited without the written authorization of Sustainable Power Group, LLC (sPower) and Terracon Consultants, Inc. (Terracon).

Reliance on the ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, ESA report, and Terracon's Agreement. The limitation of liability defined in the Agreement is the aggregate limit of Terracon's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-13 Sections 4.6 and 4.8. If the ESA will be used by a different user (third party) than the user for whom the ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-13.

1.6 Client Provided Information

Prior to the site visit, Mr. Dallas Pugh, client's representative, was asked to provide the following user questionnaire information as described in ASTM E1527-13 Section 6.

Client Questionnaire Responses

Client Questionnaire Item	Client Did Not Respond	Client's Response	
		Yes	No
Specialized Knowledge or Experience that is material to a REC in connection with the site.			X
Actual Knowledge of Environmental Liens or Activity Use Limitations (AULs) that may encumber the site.			X
Actual Knowledge of a Lower Purchase Price because contamination is known or believed to be present at the site.			X
Commonly Known or Reasonably Ascertainable Information that is material to a REC in connection with the site.			X
Obvious Indicators of Contamination at the site.			X

The client did not provide the requested User's information as of the issuance date of the report, which represents a data gap. Terracon assumes the client is evaluating the questionnaire information outside the context of Terracon's Phase I ESA scope of work and report.

2.0 PHYSICAL SETTING

Physical Setting Information		Source
Topography		
Site Elevation	Approximately 2,740 – 2,820 feet above sea level	USGS Topographic Map, Victorville NW and Adelanto California, 1993 Map (Appendix A)
Topographic Gradient	Towards the northwest	
Closest Surface Water	Unnamed creek located on the site.	
Soil Characteristics		
Soil Type	Helendale – Bryman Loamy sands	San Bernardino County, CA issued Site Soil Survey Dated September 17, 2019
Description	The soil is well drained with 2 to 5 percent slope. Parent material consists of alluvium derived from granite sources. Typical soil profile is loamy sand from 0 to 6 inches, sandy loam form 6 to 66 inches and loamy	

Physical Setting Information		Source
	sand and sandy loam from 66 to 99 inches.	
Geology/Hydrogeology		
Formation	Q, Quaternary Deposits	California Department of Conservation, Geologic Map of California, Dated 2010
Description	Alluvium lake, playa and terrace deposits. Unconsolidated and semi-consolidated.	
Estimated Depth to First Occurrence of Groundwater	Approximate depth to groundwater in the region is approximately 300 feet below grade surface (bgs), reported at a site located approximately 745 feet north of the site.	GeoTracker Gamma Global ID S8_MOBS_R09
*Hydrogeologic Gradient	Not known - may be inferred to be parallel to topographic gradient (primarily to the northwest).	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 HISTORICAL USE INFORMATION

Terracon reviewed the following historical sources to develop a history of the previous uses of the site and surrounding area, in order to help identify RECs associated with past uses. Copies of selected historical documents are included in Appendix C.

3.1 Historical Topographic Maps, Aerial Photographs, Sanborn Maps

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15 year intervals) and historical fire insurance maps produced by the Sanborn Map Company were reviewed to evaluate land development and obtain information concerning the history of development on and near the site. Reviewed historical topographic maps, aerial photographs and Sanborn maps are summarized below.

Historical fire insurance maps produced by the Sanborn Map Company were requested from ERIS to evaluate past uses and relevant characteristics of the site and surrounding properties. Based upon inquiries to the above-listed Sanborn provider, Sanborn maps were not available for the site.

- Topographic maps:
  - Victorville, California published in **1956** (1:62,500)
  - Victorville, North West California published in **1956, 1968, 1993, and 2015** (1:24,000)

- Aerial photographs:
  - USAF, **1948,** 1"=500'
  - USGS, **1952, 1968, 1978**, and **1995,** 1"=500'
  - ASCS, **1959,** 1"=500'
  - NHAP, **1985,** 1"=500'
  - NAIP**, 2005, 2010, 2012**, and **2018,** 1"=500'

Historical Maps and Aerial Photographs

Direction	Description
Site	Undeveloped land with unnamed creek running through Plot 1, Plot 5, Plot 6, Plot 15, and Plot 19, and unimproved road running north of Plot 2 and Plot 3 and south of Plot 1 (1948-1952); unimproved road north of Plot 7, Plot 8, and Plot 9 and south of Plot 6 (1959); unimproved road east of Plot 14 and West of Plot 12 (1968); unimproved road north of Plot 15, Plot 16, and Plot 17, unimproved road south of Plot 13, unimproved road (north of Plot 13 and south of Plot 10 and Plot 11, unimproved road east of Plot 11, unimproved road south of Plot 9 and unimproved road west of the site (1978); unimproved road east of Plot 3, unimproved road north of Plot 5 and unimproved road north of Plot 6 and south of Plot 5 (1985); unimproved road south of Plot 18, Plot 19 and Plot 20 (1995); unnamed unimproved road through the northern portion of Plot 2 and Plot 3 (2005-2018).
North	Undeveloped land with Freemont Wash to the northwest, unnamed creek to the north and residential developments to the north east (1948-1959); unimproved road (Aster Road) to the northeast and residential development to the northeast (1968-1978) unnamed creek to the northeast and unnamed unimproved road to the north (1985-2018).
East	Undeveloped land with unnamed creek to the south east, Highway 395 to the east, residential developments east of Plot 5, Plot 4 and Plot 1 (1948-1952) unimproved roads to the west (1959-2005); junk yard to the northeast of Plot 4 (2010-2018).
South	Undeveloped land, unimproved road to the south and residential development to the southwest (1948-1959); unimproved roads to the southeast and southwest and race track developed east of Plot 14 (1968-1978); residential development to the southwest (1985-2018).
West	Undeveloped land with unnamed creek, Freemont Wash residential development to the northwest unimproved road to the northwest and unimproved road to the southwest (1948-1959); unimproved roads to the west (1968-1985); utility easement to the west of Plot 2 and Plot 6 (1995-2018).
Central Adjoining	Undeveloped land with unnamed creek running south of Plot 1, east of Plot 2 and west of Plot 3, residential property to east of Plot 1 and north of Plot 4 (1948-1952); residential property to the east of Plot 1 (1959-1968); unimproved road north of Plot 14, east of Plot 11, and south of Plot 9 (1978); unimproved road east of Plot 2, south of Plot 3, north of Plot 5 and west of Plot 4 (1985-2018).

3.2 Historical City Directories

The ERIS Digital Business Directory and Haines city directories used in this study were made available through ERIS (selected years reviewed: 1971-2018) and were reviewed at approximate

five-year intervals, if readily available. Street listings not available prior to 1971. The current site address was not identified.

Historical City Directories

Direction	Description
Site	No Listings
North	**10550 Colusa Road** - No Listings (1971-2018). **20825 Aster Road** - No Listings (1971-2018). **20779 Aster Way** - No Listings (1971-2018).
East	**10350 Colusa Road** - No Listings (1971-2018). **10522 Colusa Road** - No Listings (1971-2018). **21090 Aster Road** - No Listings (1971-2018). **20938 Aster Way** - No Listings (1971-2018).
South	No Listings
West	No Listings

3.3 Site Ownership

Based information provided by client, Mr. Dallas Pugh, and according to the Public San Bernardino County Parcel Viewer the current owner is: High Desert Investment LLC. (046062120, 046062121, 046017133, 046016135, 045902606, 046062116, 046062117, 046062103, 046061217, 046061216, 045936110, 045936152, 046062125, 046063127 and 046063123) and Adelanto Ventures LLC. (045936136, 045937122, 045937123, 045937125, 045937126, 045937127, 045937128, 045937129, 045936118, 045936151, 045936108, 045936150, 045936149, 045936106, 045937124, 045936119, 045936122, 046063130 and 046063122).

3.4 Title Search

At the direction of the client, a title search was not included as part of the scope of services. Unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.5 Environmental Liens and Activity and Use Limitations

The ERIS regulatory database report included a review of both Federal and State Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report, the site was not listed on the EC or IC databases. Please note that in addition to these federal and state listings, AULs can be recorded at the county and municipal level that may not be listed in the regulatory database report. Environmental lien and activity and use limitation records recorded against the site were not provided by the client. At the direction of the client, performance of a review of these records was not included as part of the scope of services and unless notified otherwise, we assume that the client is evaluating this information outside the scope of this report.

3.6 Interviews Regarding Current and Historical Site Uses

The following individuals were interviewed regarding the current and historical use of the site.

Interviews

Interviewer	Name / Phone #	Title	Date/Time
Jennifer Van	Mr. Dallas Pugh / 562-348-1119	Permitting Manager	11/11/2019

Terracon interviewed Mr. Dallas Pugh on November 11, 2019. Mr. Pugh indicated that to his knowledge:

- The site is undeveloped land and he is not aware of on-site operations.
- Illegal dumping has taken place on the site and surrounding vicinity.
- Utility pipelines are running through the site
- The area is known to be occupied by the Desert Tortoise, Mojave Ground Squirrel, Burrowing Owl, American Badger and Kit Foxes.

3.7 Prior Report Review

Terracon requested the client provide any previous environmental reports they are aware of for the site. Previous reports were not provided by the client to Terracon for review.

4.0 RECORDS REVIEW

Regulatory database information was provided by ERIS, a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated. The scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

4.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definition, descriptions, and the database search report are included in Appendix D.

Federal Databases

Database	Description	Distance (miles)	Listings
CERC	Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS	0.5	0
CERL	CERCLIS Liens	Site	0
CNFR	CERCLIS - No Further Remedial Action Planned	0.5	0
EC	Federal Engineering Controls-ECs	0.5	0
ERN1	Emergency Response Notification System	Site	0
ERN2	Emergency Response Notification System	Site	0
ERNS	Emergency Response Notification System	Site	0
FBFL	The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database	0.5	0
FRS	Facility Registry Service/Facility Index	Site	0
HMIR	Hazardous Materials Information Reporting System	0.10	0
HTSC	Hist TSCA	0.10	0
IC	Federal Institutional Controls- ICs	0.5	0
IODI	EPA Report on the Status of Open Dumps on Indian Lands	0.5	0
NCDL	National Clandestine Drug Labs	Site	0
NPL	National Priority List	1.0	0
NPLD	Delisted NPL	0.5	0
NPLP	National Priority List - Proposed	1.0	0
ODI	Inventory of Open Dumps, June 1985	0.5	0
RCOR	RCRA CORRACTS- Corrective Action	1.0	0
RGEN	RCRA Generator List	0.25	0
RNGN	RCRA Non-Generators	0.25	0
RTSD	RCRA non-CORRACTS TSD Facilities	0.5	0
TRI	Toxics Release Inventory (TRI) Program	Site	0
TSCA	Toxic Substances Control Act	0.10	0

State/Tribal 0Databases

Database	Description	Distance (miles)	Listings
AST	Aboveground Storage Tanks	0.25	0
CDL	Clandestine Drug Lab Sites	0.10	0

Database	Description	Distance (miles)	Listings
CHMR	California Hazardous Material Incident Report System (CHMIRS)	Site	0
DEED	Deed Restrictions and Land Use Restrictions	0.5	0
ENVS	EnviroStor Database	1.0	0
GTCL	GeoTracker Cleanup Sites Data	0.5	0
HLUR	Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions	0.5	0
HWF	EnviroStor Hazardous Waste Facilities	1.0	0
ICE	EnviroStor Inspection, Compliance, and Enforcement	1.0	0
ILST	Leaking Underground Storage Tanks (LUSTs) on Indian Lands	0.5	0
IUST	Underground Storage Tanks (USTs) on Indian Lands	0.25	0
LDS	Land Disposal Sites	0.5	0
LUR	Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions	0.5	0
LUST	Leaking Underground Fuel Tank Reports	0.5	0
RESP	State Response Sites	1.0	0
SCH	School Property Evaluation Program Sites	1.0	0
SWAT	Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report	0.5	0
SWF	Solid Waste Information System (SWIS)	0.5	0
UST	Permitted Underground Storage Tank (UST) in GeoTracker	0.25	0
VCP	Voluntary Cleanup Program	1.0	0

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local, and proprietary databases provided by the database firm.

The site is not listed in the regulatory databases.

A list of the additional reviewed databases is included in the regulatory database report included in Appendix D. A review of federal state environmental regulatory database information did not identify regulated facilities within the specified search radii.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed two facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, none of these facilities were identified as the site or adjacent properties. These facilities are listed in the database report in Appendix D.

4.2 Local Agency Inquiries

Agency Contacted/ Contact Method	Response
San Bernardino County Department of Environmental Health (SBCDEH) / Online form sent by e-mail EHS.CustomerService@dph.sbcounty.gov	On November 21, 2019, Terracon received a response from Jeanne Hammer, Office Assistant III, with the SBCDEH stating records were not found for the site address.
Department of Toxic Substances Control / by e-mail pubreqact@dtsc.ca.gov	On November 13, 2019, Terracon received a response from Choua Her, Regional Records Coordinator, with the DTSC, stating records were not found for the site address.
Adelanto City Clerk (ACC) / via portal https://adelanto.nextrequest.com/requests/new	At the issuance of this report, a response has not been received.
Mojave Desert Air Pollution Control District (MDAPCD) / Online Form by email Jjochim@mdaqmd.ca.gov	At the issuance of this report, a response has not been received.
Lahontan Regional Water Quality Control Board (LRWQCB) / by e-mail lahontan@waterboards.ca.gov	At the issuance of this report, a response has not been received. Terracon researched on-line at the State Resource Control Board – GeoTracker database, and records were not identified for the site.

4.3 Local Area Knowledge

Based on a review of the California Department of Conservation Division of Oil, Gas & Geothermal Well Finder website (https://maps.conservation.ca.gov/doggr/wellfinder), there are no oil or gas production wells located at the site or surrounding areas.

5.0 SITE RECONNAISSANCE

5.1 General Site Information

Information contained in this section is based on a visual reconnaissance conducted while walking through the site and the accessible interior areas of structures, if any, located on the site. The site and adjoining properties are depicted on the Site Diagram, which is included in Exhibit 2 of Appendix A. Photo documentation of the site at the time of the visual reconnaissance is provided in Appendix B. Credentials of the individuals planning and conducting the site visit are included in Appendix E.

General Site Information

Site Reconnaissance	
Field Personnel	Jennifer S. Van and Meg Haile
Reconnaissance Date	November 26, 2019
Weather Conditions	Sunny 66˚F
Site Contact/Title	N/A

5.2 Overview of Current Site Occupants

The site is located approximately 1,350 feet north of El mirage Street, 100 feet east of Raccoon Avenue and 1,500 feet east of Highway 395 in Adelanto, San Bernardino County, California. The site consists of approximately 330 acres of undeveloped land identified herein as Plots 1 through 20. At the time of reconnaissance, the site was observed to be unoccupied.

5.3 Overview of Current Site Operations

The site consists of undeveloped land and was unoccupied at the time of the site reconnaissance.

5.4 Site Observations

The following table summarizes site observations and interviews. Affirmative responses (designated by an “X”) are discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed or Identified
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Ventilation hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint booths	
	Sub-grade mechanic pits	
	Wash-down areas or carwashes	
	Pesticide/herbicide production or storage	

Category	Item or Feature	Observed or Identified
	Printing operations	
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	
	Salvage operations	
	Oil, gas or mineral production	
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS or SDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, French drains, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	
	Pipeline markers	X
	Interior floor drains	
Electrical Transformers/ PCBs	Transformers and/or capacitors	
	Other equipment	
Releases or Potential Releases	Stressed vegetation	
	Stained soil	X
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	X
	Dumping or disposal areas	X
	Construction/demolition debris and/or dumped fill dirt	X
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wastewater lagoons	
	Wells	

Underground Chemical or Waste Storage, Drainage or Collection System

Pipeline Markers

Pipeline markers were located along an east of Aster Road on Plot 6. The pipeline markers were for a high-pressure gas pipeline. Leakage, spills or releases from the pipeline were not observed at the time of the site reconnaissance.

Based on a review of the National Pipeline Mapping System (NPMS), there is a gas transmission pipeline that runs parallel to Highway 395, located approximately 1,500 feet to the east of the site. The pipelines are not listed in the regulatory database and a release was not identified in the regulatory review. Based on the absence of reported releases and regulatory status, the off-site identified pipelines do not represent a REC to the site.

Releases or Potential Releases

Stained Soil

Stained soil was observed on the southeastern corner of Plot 6 of the site. Three 5-gallon buckets were observed with a black oily substance spilling out and leaking onto the soil. Based on visual observation (only of surface materials) approximately 1-2 gallons of liquid was spilled. Based on site observations, the stained soil represents a REC to the site.

Trash, debris and/or other waste materials

Trash and debris was observed throughout the site during the site reconnaissance. Based on visual observation (only of surface materials) approximately 150 cubic yards of debris, which consisted of household trash; paper, plastic, and glass, furniture and tires were observed. Leakage, spills or other releases from these materials were not observed during the visual reconnaissance. The debris materials did not appear to be hazardous in nature. Based on site observations, the trash and debris does not represent a REC to the site.

Dumping or Disposal Areas

A dumping and disposal area was observed on the southeastern corner of Plot 6 of the site, within an unnamed creek, during the site reconnaissance. The dumped area consisted of approximately 0.2-acres that contained household wastes; paper, plastic, and glass, furniture, an automobile, car parts, appliances, tires, wood, and dumped plastic containers that appeared to contain petroleum hydrocarbons. Heavy petroleum hydrocarbon staining was observed in the vicinity of the dumping area. Based on site observations and observed petroleum hydrocarbon staining, the approximately 0.2-acre dumping area on the southeastern corner of Plot 6 represents a REC to the site.

Construction/demolition debris and/or dumped fill dirt

Construction/demolition debris was observed throughout the site during the site reconnaissance. The amount of debris was approximately 50 cubic yards. Based upon visual observation of surface materials only, this area appeared to consist primarily of concrete and wood. Leakage,

spills or other releases from these materials were not observed during the visual reconnaissance. Based on site observations, the concrete debris does not constitute a REC on the site.

6.0 ADJOINING PROPERTY RECONNAISSANCE

Visual observations of adjoining properties (from site boundaries) are summarized below.

Adjoining Properties

Direction	Description
North	The property to the north consisted of undeveloped land and 10550 Colusa Road, 20825 Aster Road, and 20779 Aster Way.
East	The property to the east consisted of undeveloped land and 10350 Colusa Road 10522 Colusa Road, 21090 Aster Road and 20938 Aster Way
South	The property to the south consists of undeveloped land and El Mirage Road.
West	The property to the west consists of undeveloped land and a utility easement.
Central Adjoining	The central adjoining property consists of undeveloped land.

RECs were not observed with the adjoining properties.

7.0 ADDITIONAL SERVICES

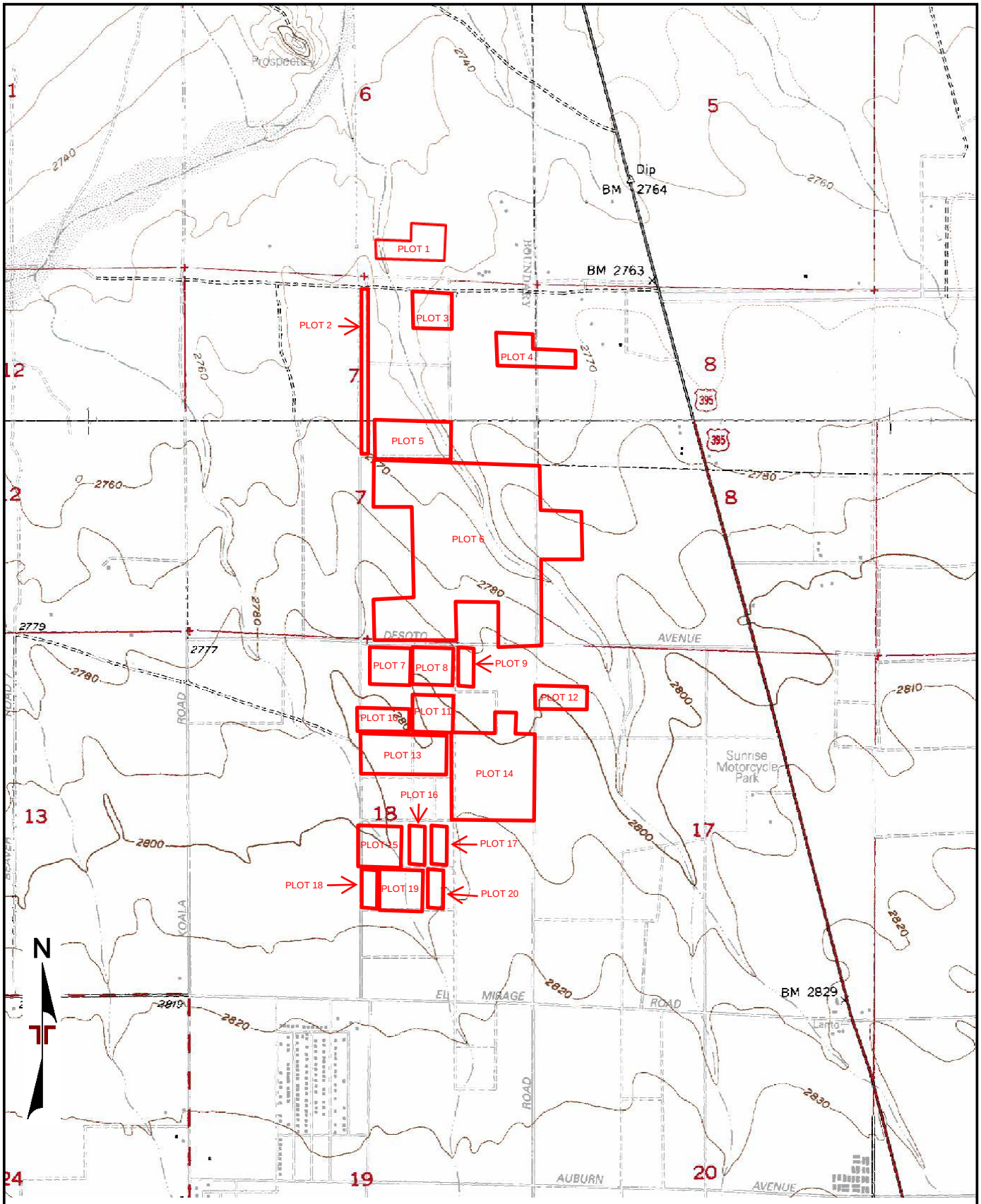
Per the agreed scope of services specified in the proposal, additional services (e.g. sampling, lead in based paint sampling, wetlands evaluation, lead in drinking water testing, radon testing, vapor encroachment screening, etc.) were not conducted.

8.0 DECLARATION

I, Jennifer S. Van, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

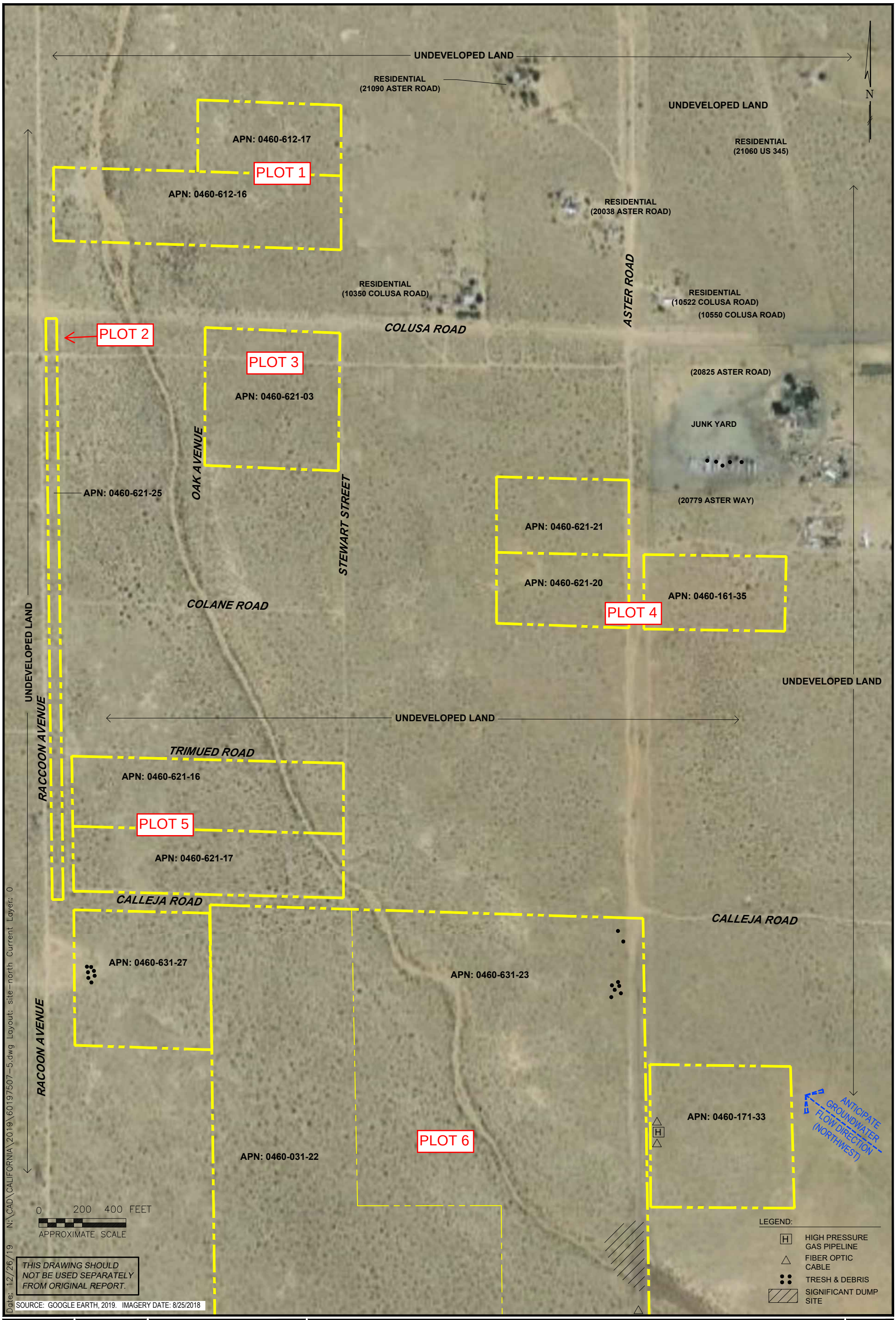
Jennifer S. Van
Environmental Group Manager

APPENDIX A
EXHIBIT 1 – TOPOGRAPHIC MAP
EXHIBIT 2 – SITE DIAGRAM: NORTH
EXHIBIT 2A - SITE DIAGRAM: SOUTH

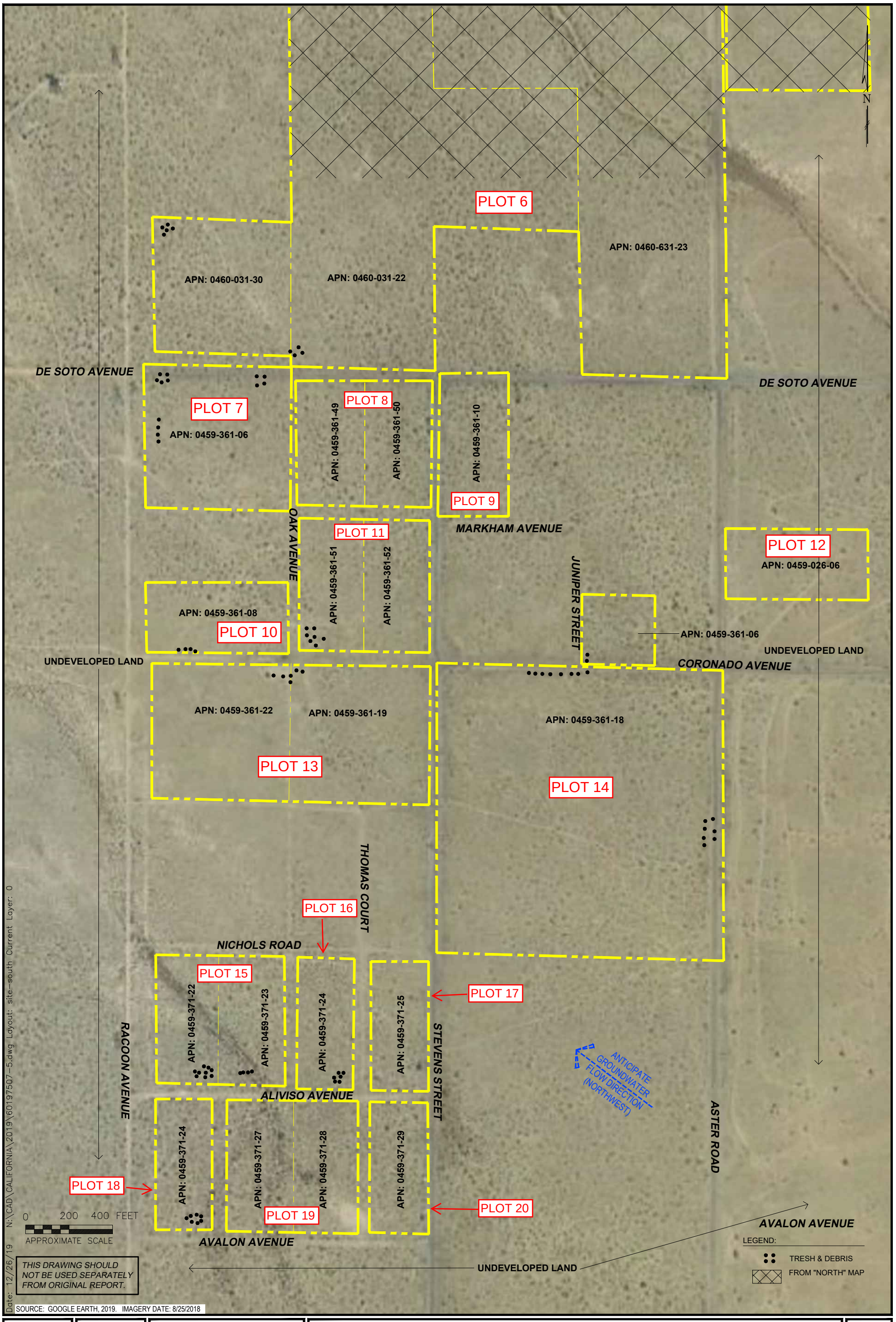


TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: VICTORVILLE NW, CA (1/1/1993) and ADELANTO, CA (1/1/1993).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	TOPOGRAPHIC MAP	EXHIBIT
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	1
Checked by: JSV	File Name: N/A			
Approved by: SN	Date: DEC 2019			



Project Mngr: JSV Drawn By: CDD Checked By: JSV Approved By: IRN	Project No. 60197507.5 Scale: AS SHOWN Date: 12/26/19	Terracon Consulting Engineers and Scientists 1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780 PH. (949) 261-0051 FAX. (949) 261-6110	**SITE DIAGRAM** NORTH - PLOTS 1 THROUGH 6 BALDY MESA PHASE II - SITE S, NORTH ~1350 FEET NORTH OF EL MIRAGE ROAD ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA	EXHIBIT 2



Project Mngr: JSV	Project No. 60197507.5	Terracon Consulting Engineers and Scientists	**SITE DIAGRAM SOUTH - PLOTS 7 THROUGH 20**
Drawn By: CDD	Scale: AS SHOWN	1421 EDINGER AVE. STE. C TUSTIN, CALIFORNIA 92780	BALDY MESA PHASE II - SITE N, SOUTH
Checked By: JSV	Date: 12/26/19	PH. (949) 261-0051 FAX. (949) 261-6110	~1380 FEET NORTH OF EL MIRAGE ROAD
Approved By: IRN			ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

EXHIBIT 2A

APPENDIX B
SITE PHOTOGRAPHS



Photo #1 View of northeastern portion of the site from Plot 4 of the site looking south.



Photo #2 View of the northwestern portion of the site from Plot 1 of the site looking southeast.



Photo #3 View of the central-western portion of the site from Plot 6 of the site looking east.



Photo #4 View of central-eastern portion of the site from Plot 12 of the site looking west.



Photo #5 View of the central portion of the site from northeastern corner of Plot 5 of the site looking south.



Photo #6 View of the central portion of the site from the southeastern corner of Plot 8 of the site looking northwest.



Photo #7 View of southeastern corner of the site looking west from Plot 20 of the site.



Photo #8 View of southwestern boundary of the site looking east from Plot 15 of the site.



Photo #9 View of solid waste dump area located on southern boundary of Plot 19 of the site.



Photo #10 View of solid waste dump area located on the southern boundary of Plot 15 of the site.



Photo #11 View of tires and furniture disposed of on the northeastern corner of Plot 4 of the site.



Photo #12 View of dumped furniture located on the northeastern boundary of Plot 6 on the site.



Photo #13 View of roofing tiles found at dump site located on the southeastern portion of Plot 6.



Photo #14 View of 5-gallon buckets found at dump site located on the southeastern portion of Plot 6.



Photo #15 View of vehicle, trash and debris found at dumb site located on the southeastern portion of Plot 6.



Photo #16 View of furniture, trash and debris found at dump site located on the southeastern portion of Plot 6.



Photo #17 View of furniture, trash and debris found at dump site located on the southeastern portion of Plot 6.



Photo #18 View of the adjoining property to the south from southwestern corner of Plot 18.



Photo #19 View of adjoining property to the north from northern portion of Plot 4 of the site.



Photo #20 View of adjoining property to the West from southern portion of Plot 2 of the site.



Photo #21 View of central adjoining property looking north from the northeastern corner of Plot 6.



Photo #22 View of the adjoining property to the east from the northeastern corner of Plot 17 looking east.

APPENDIX C
HISTORICAL DOCUMENTATION AND USER QUESTIONNAIRE

Client/User Required Questionnaire

Terracon

Person Completing Questionnaire	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Site Name	Baldy Mesa Solar - Phase II (5 sites)
Site Address	City of Adelanto, CA
Point of Contact for Access	Name: Dallas Pugh Phone: 562-348-1119 Company: sPower Email: dallas.pugh@spower.com
Access Restrictions or Special Site Requirements?	X No ___ Yes (If yes, please explain)
Confidentiality Requirements?	___ No X Yes (If yes, please explain) outlined in MSA
Current Site Owner	Name: Phone: Company: See Title Reports Email: -
Current Site Operator	Name: Phone: Company: See Title Reports Email: -
Reasons for ESA (e.g., financing, acquisition, lease, etc.)	Conditional use permit for development and operation of a photovoltaic solar utility plant.
Anticipated Future Site Use	Photovoltaic Solar Utility
Relevant Documents?	Please provide Terracon copies of prior Phase I or II ESAs, Asbestos Surveys, Environmental Permits or Audit documents, Underground Storage Tank documents, Geotechnical Investigations, Site Surveys, Diagrams or Maps, or other relevant reports or documents.

ASTM User Questionnaire

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must respond to the following questions. Failure to provide this information to the environmental professional may result in significant data gaps, which may limit our ability to identify recognized environmental conditions resulting in a determination that "all appropriate inquiry" is not complete. This form represents a type of interview and as such, the user has an obligation to answer all questions in good faith, to the extent of their actual knowledge.

1) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.25)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

2) Did a search of recorded land title records (or judicial records where appropriate) identify any activity and use limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state, or local law (40 CFR 312.26)?
X No ___ Yes (If yes, explain below and send Terracon a copy of the title records or judicial records reviewed.)

3) Do you have any specialized knowledge or experience related to the site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business (40 CFR 312-28)?
X No ___ Yes (If yes, explain below)

4) Do you have actual knowledge of a lower purchase price because contamination is known or believed to be present at the site (40 CFR 312.29)?
X No ___ Yes ___ Not applicable (If yes or Not applicable, explain below)

5) Are you aware of commonly known or reasonably ascertainable information about the site that would help the environmental professional to identify conditions indicative of releases or threatened releases (40 CFR 312.30)?
X No ___ Yes (If yes, explain below)

6) Based on your knowledge and experience related to the site, are there any obvious indicators that point to the presence or likely presence of contamination at the site (40 CFR 312.31)?
X No ___ Yes (If yes, explain below)

Comments or explanations:

None

Please return this form with the signed authorization to proceed. Proposal No. P60197507

ENVIRONMENTAL RISK INFORMATION SERVICES

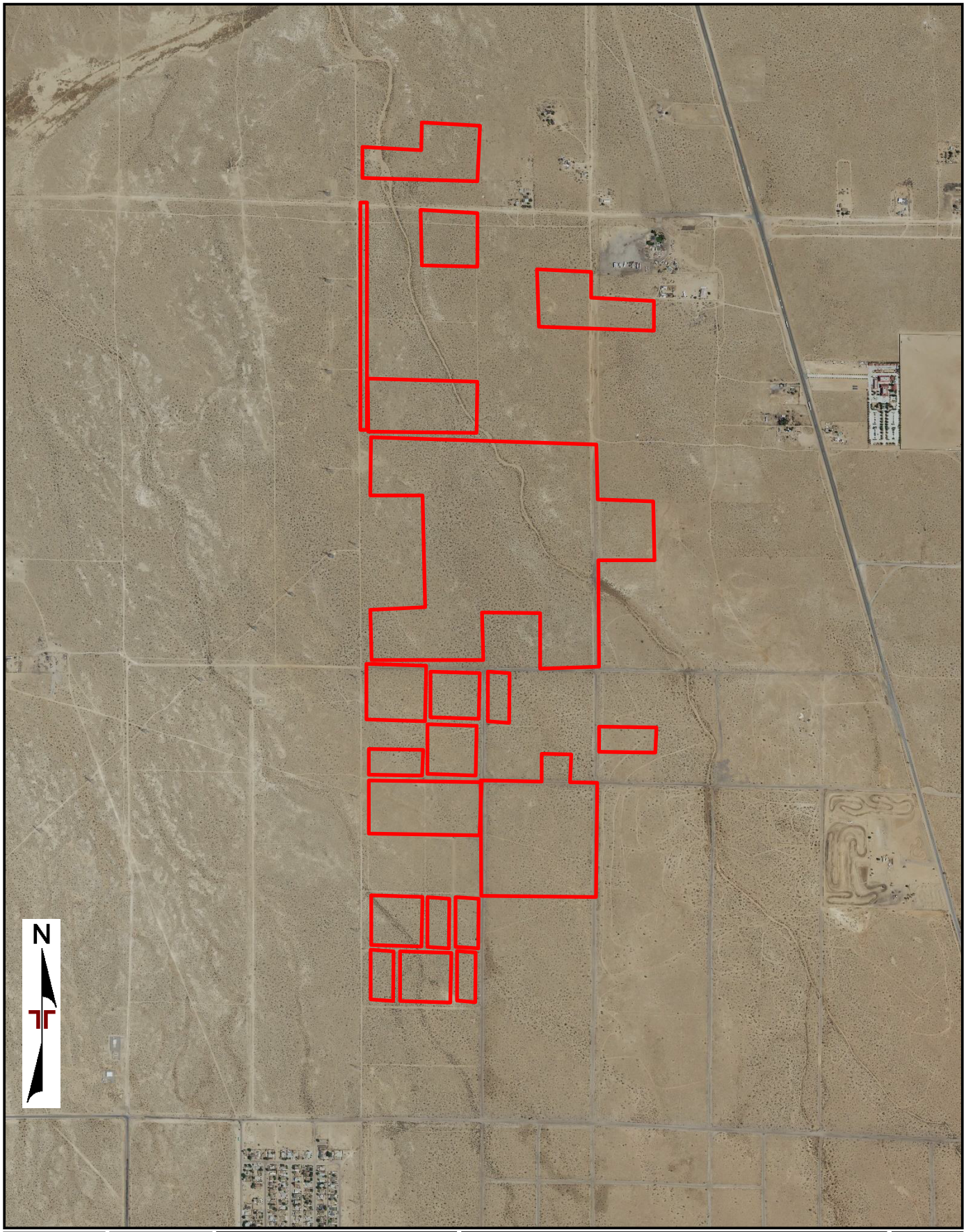
HISTORICAL AERIALS

Project Property:	Site 5 Site 5 Adelanto CA
Project No:	Site 5
Requested By:	Terracon
Order No:	20191113089
Date Completed:	November 22, 2019

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Date	Source	Source scale	Comment
2018	NAIP	1:15600	
2012	NAIP	1:15600	
2010	NAIP	1:15600	
2005	NAIP	1:15600	
1995	USGS	1:15600	
1985	NHAP	1:15600	
1978	USGS	1:15600	
1968	USGS	1:15600	
1959	ASCS	1:15600	
1952	USGS	1:15600	
1948	USAF	1:15600	



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Drawn by: MH	Scale: 1:15600	1421 Edinger Avenue,Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA
Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

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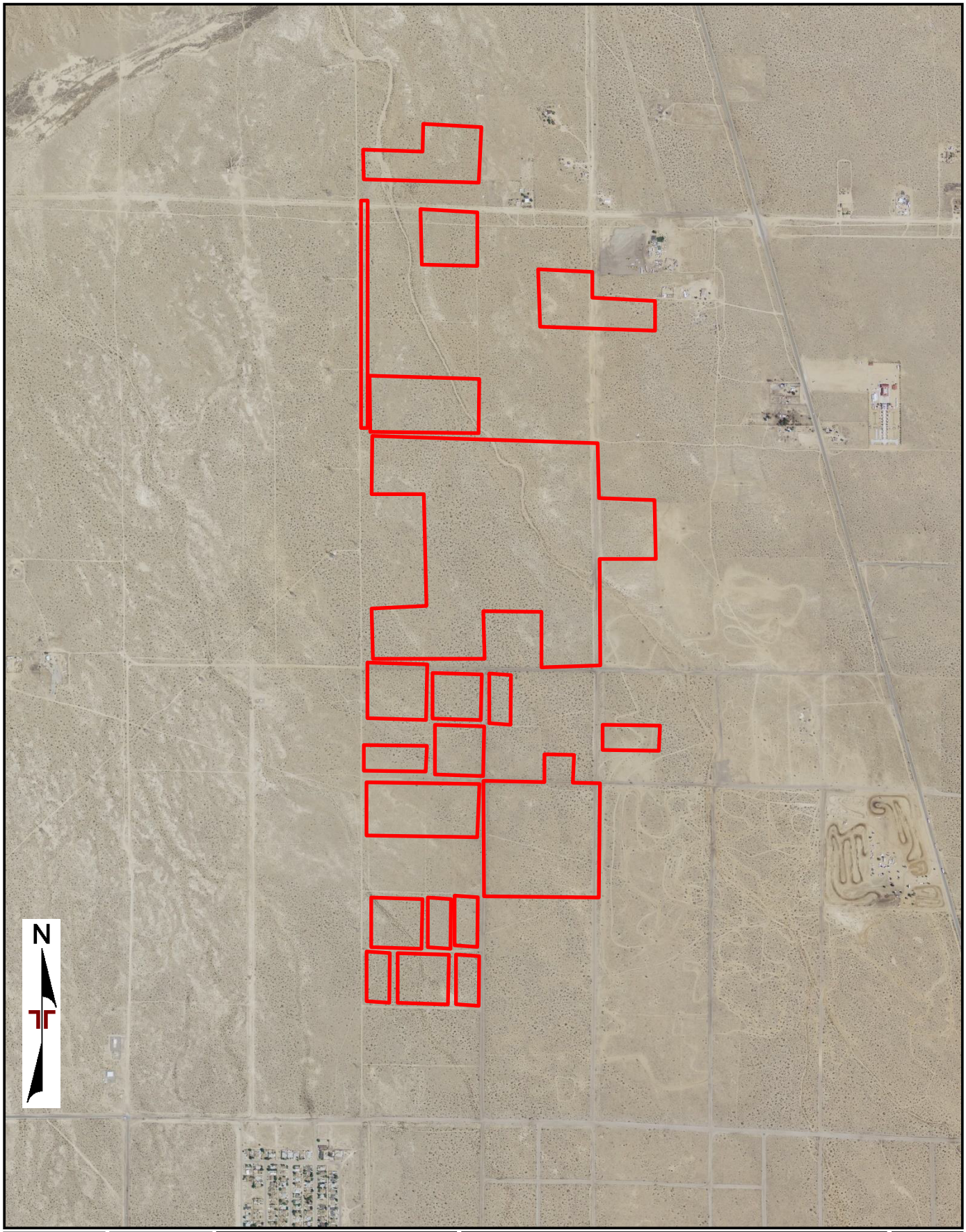

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Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

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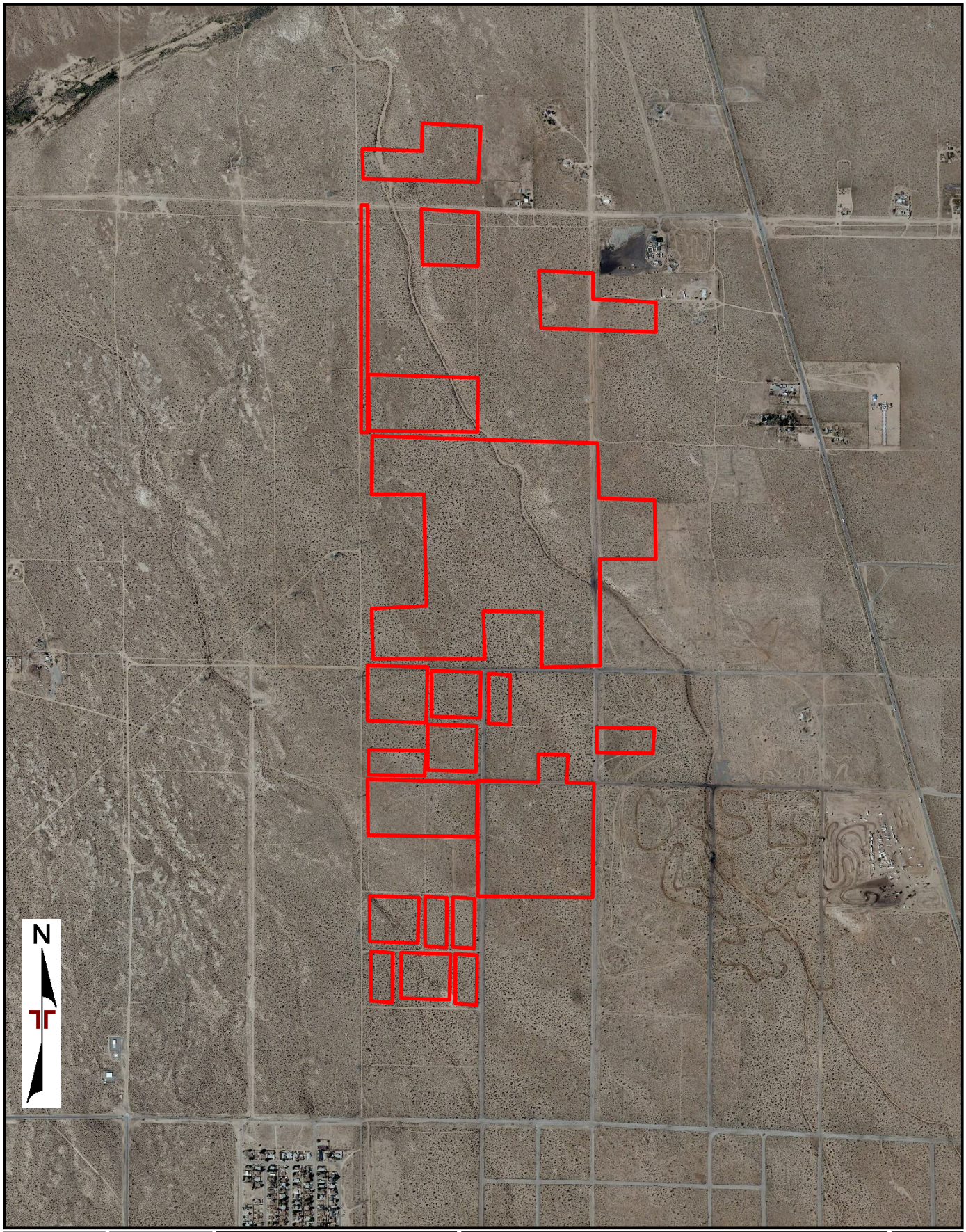

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Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

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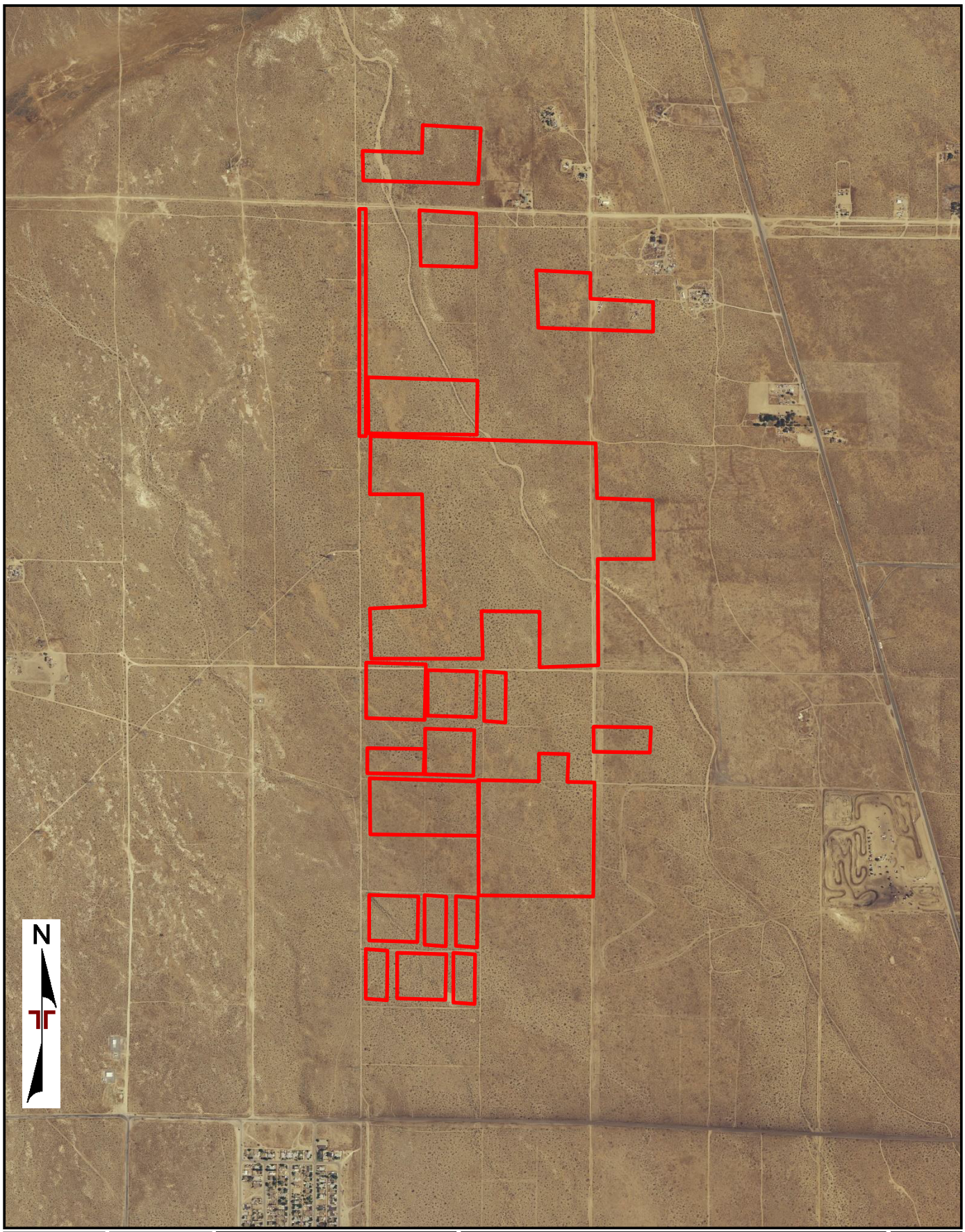

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Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

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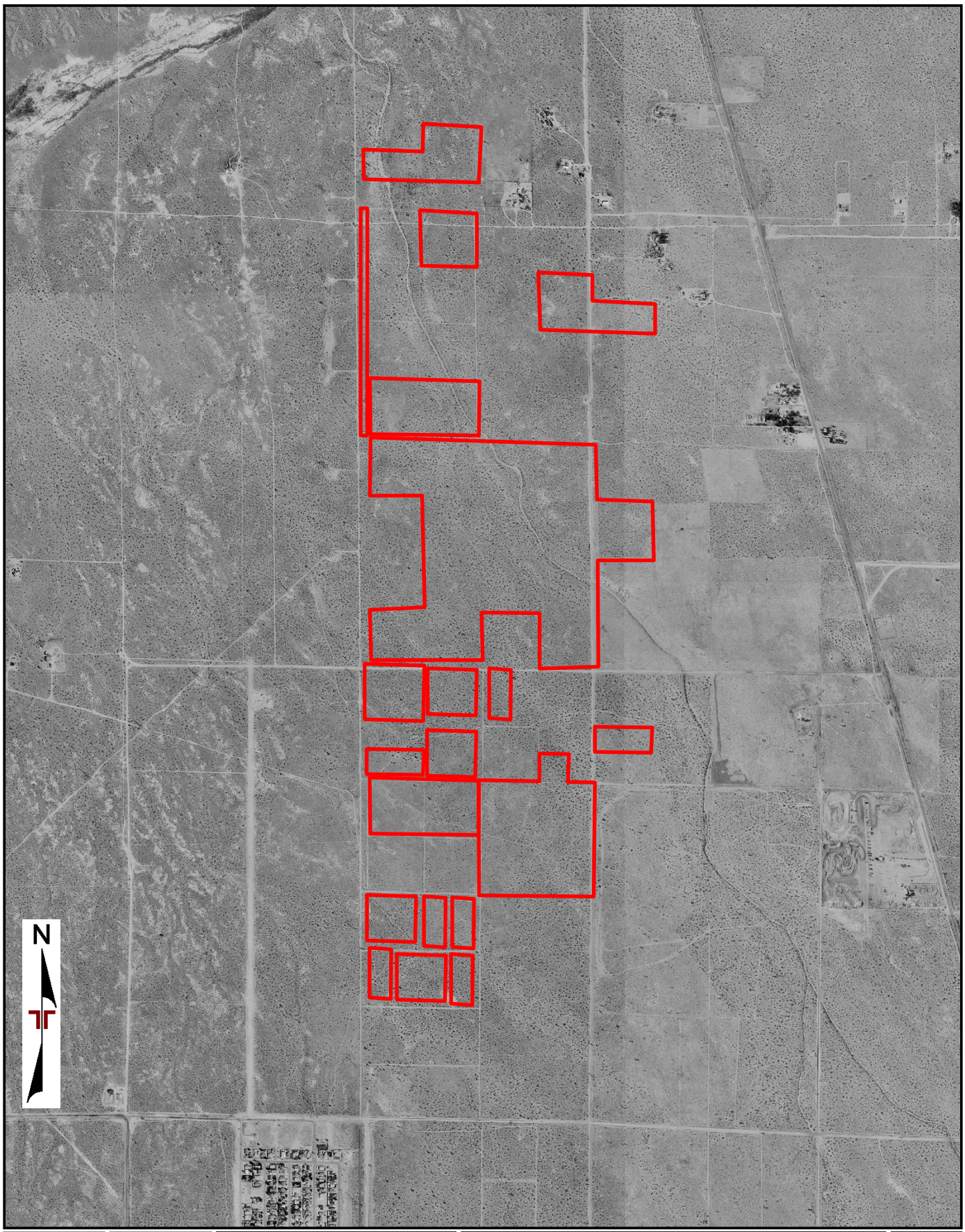
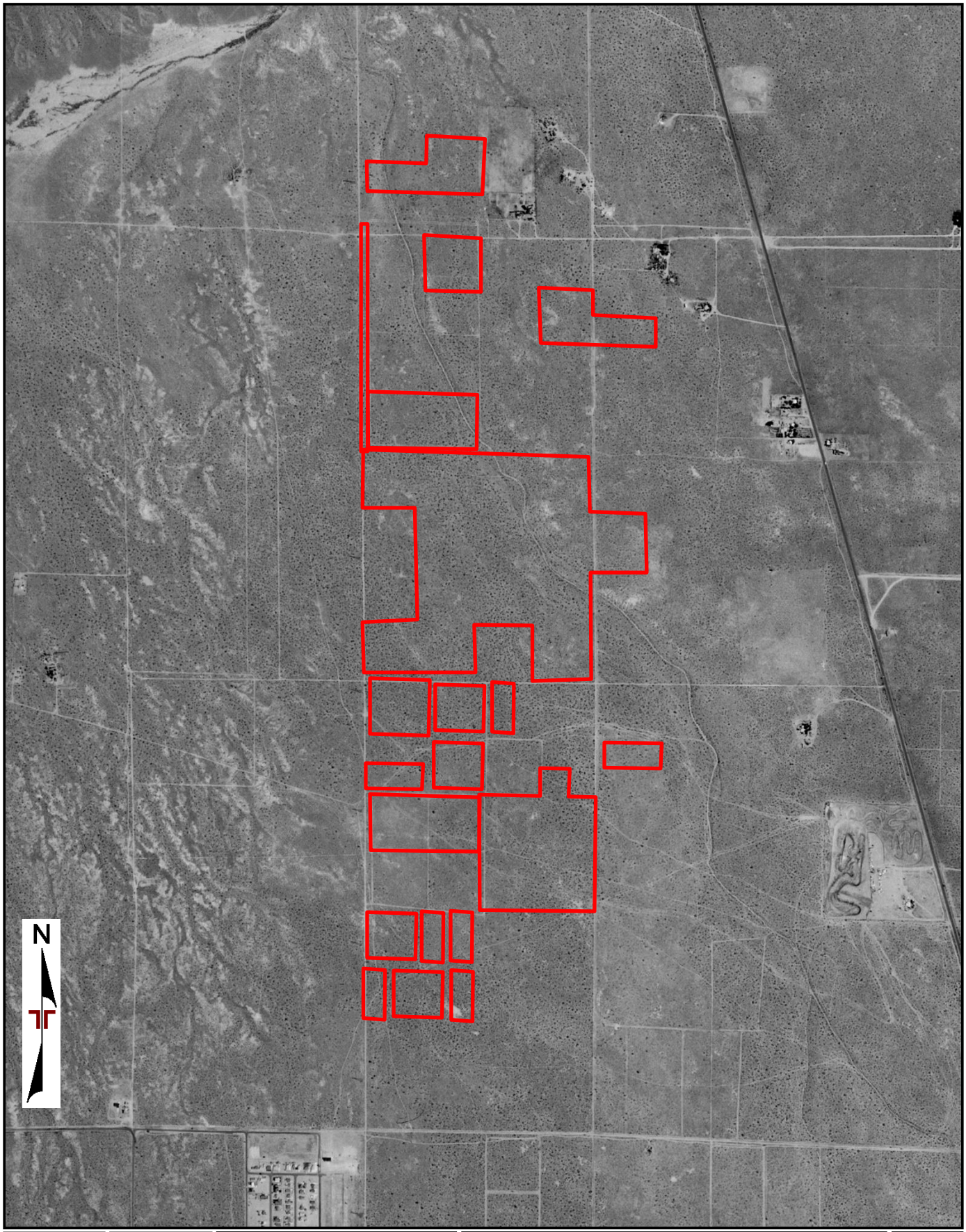


Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	AERIAL PHOTO (1995-USGS) BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1:15600			
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			



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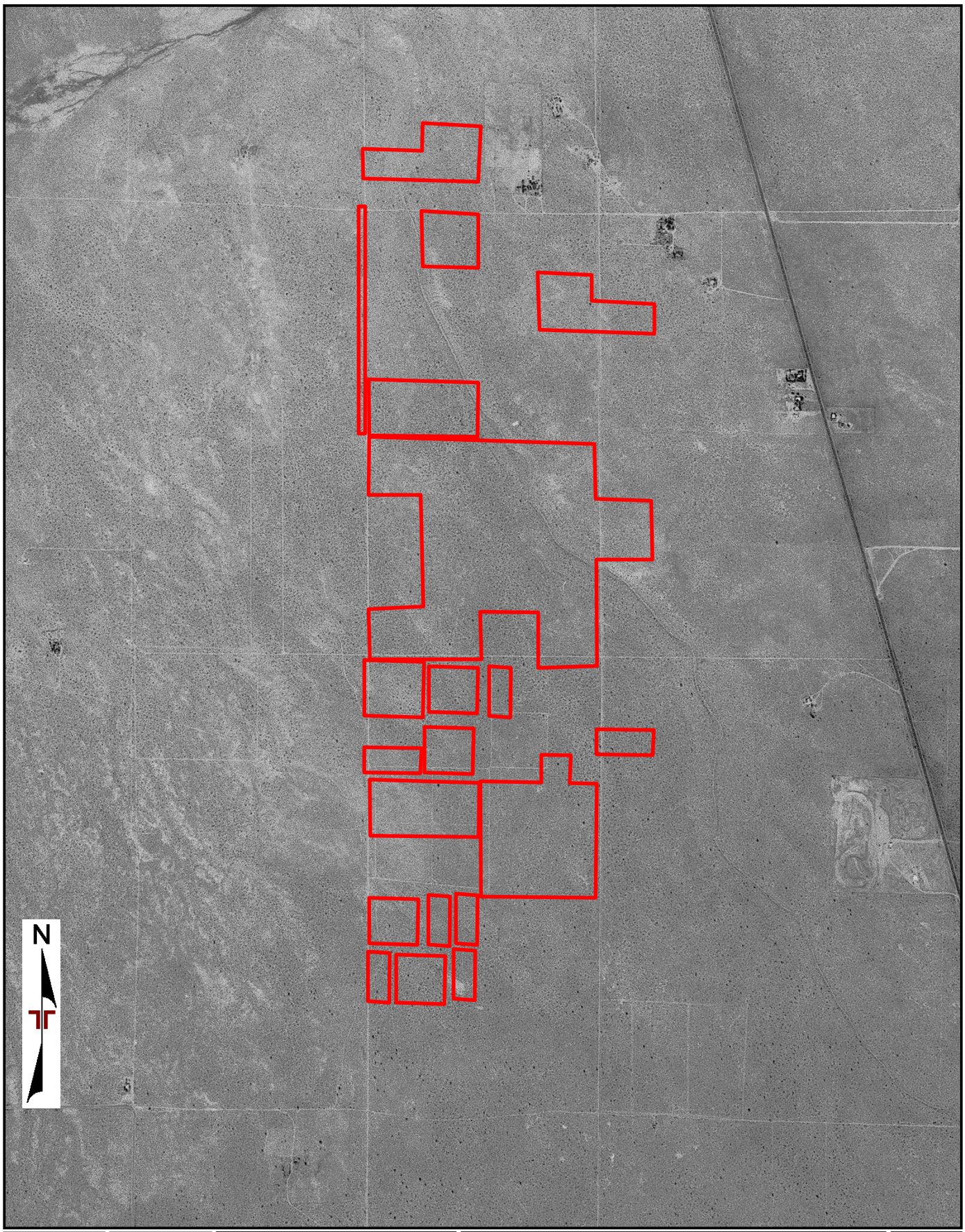
Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

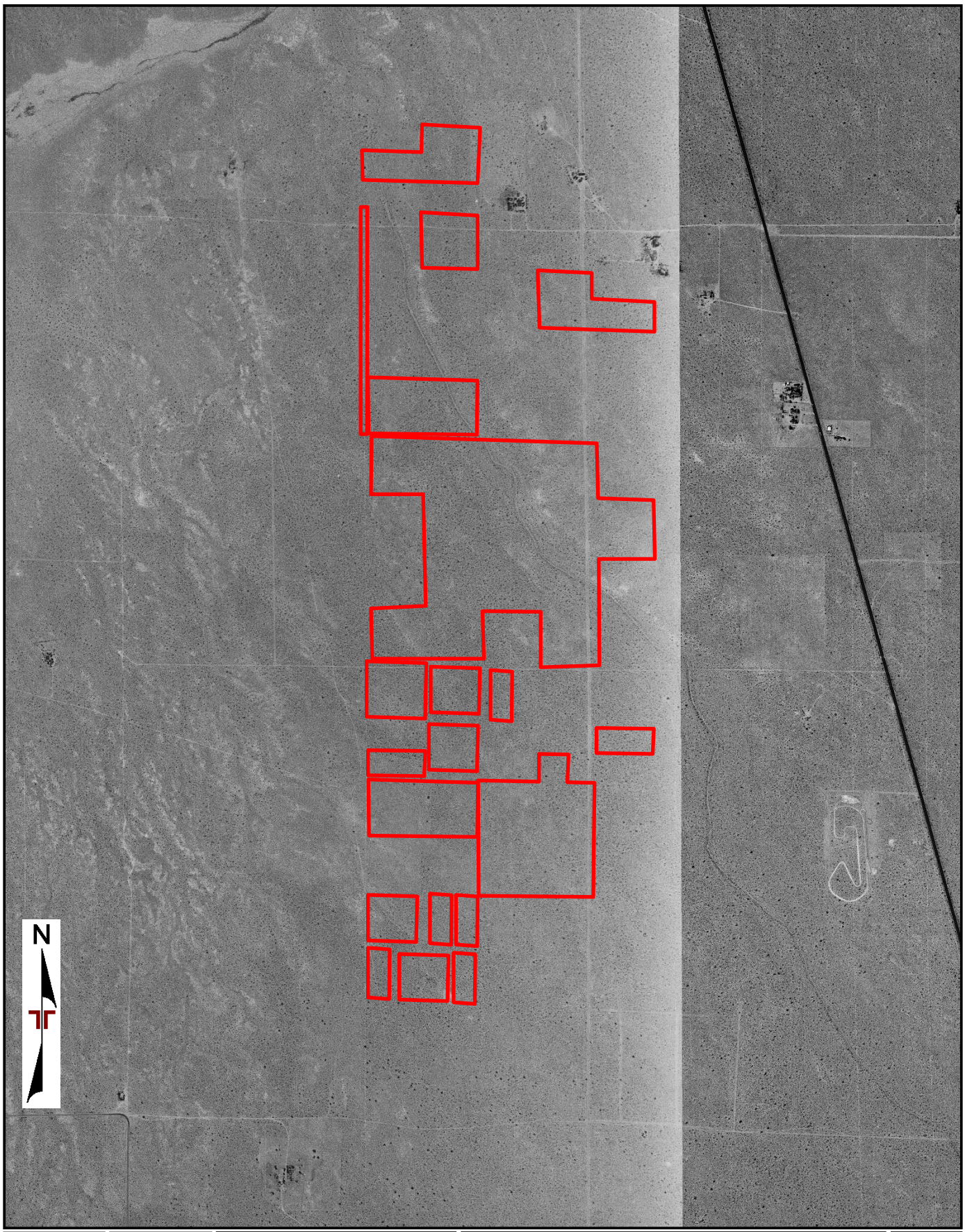
C



Project Manager: JSV	Project No. 60197507.5	Terracon	AERIAL PHOTO (1978-USGS)
Drawn by: MH	Scale: 1:15600	1421 Edinger Avenue,Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA
Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

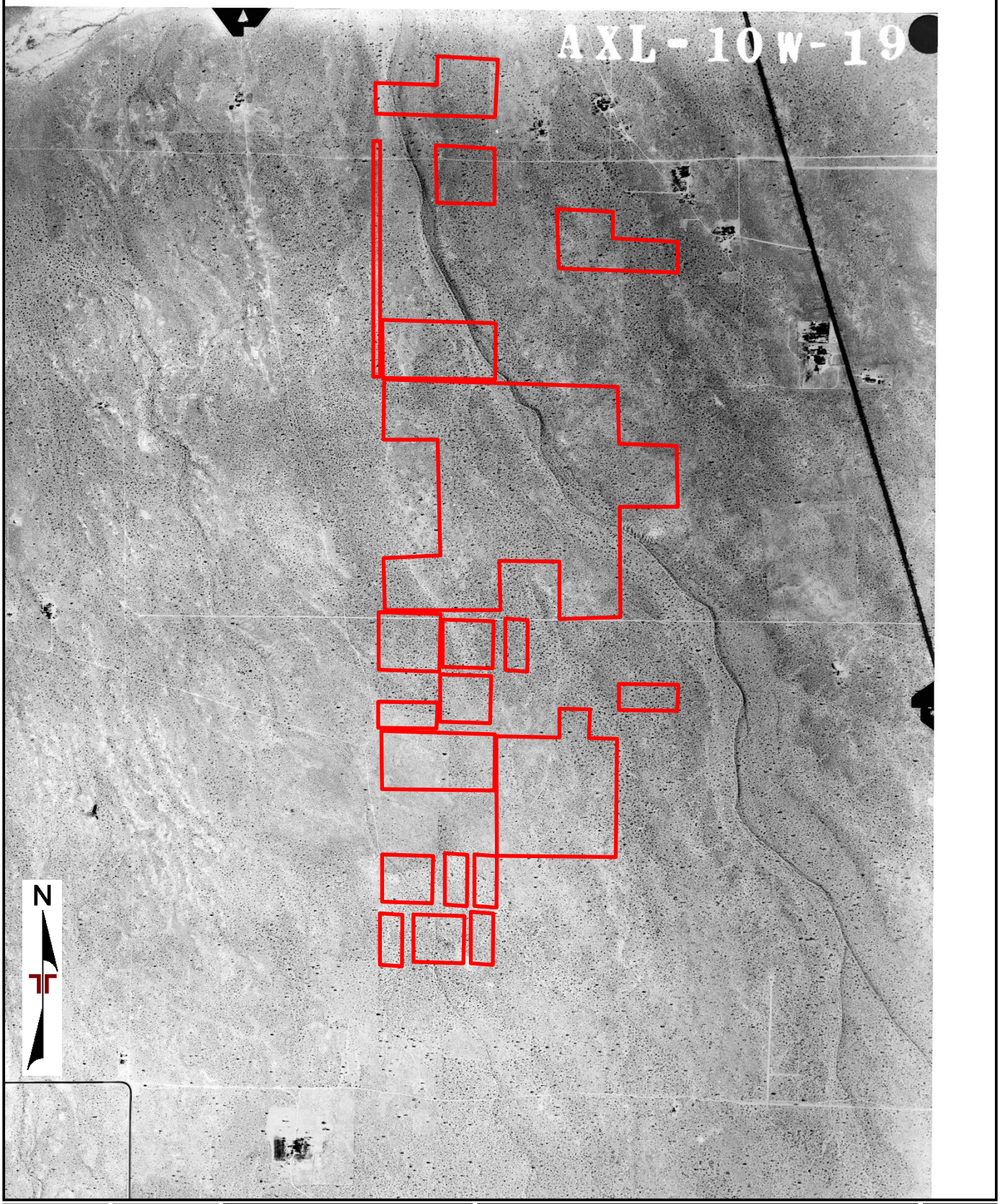
C



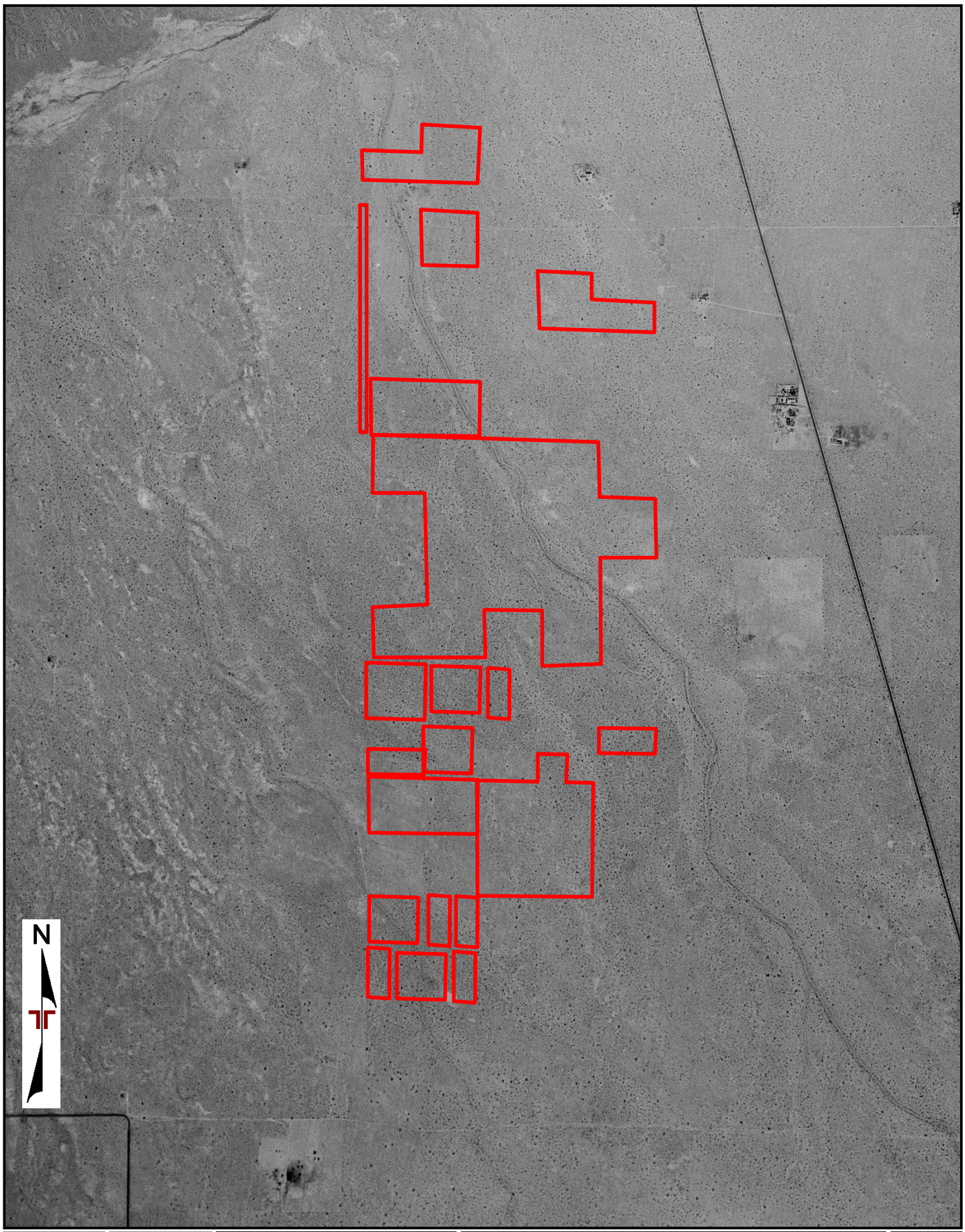
Project Manager: JSV	Project No. 60197507.5	Terracon	AERIAL PHOTO (1968-USGS)
Drawn by: MH	Scale: 1:15600	1421 Edinger Avenue,Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA
Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

C



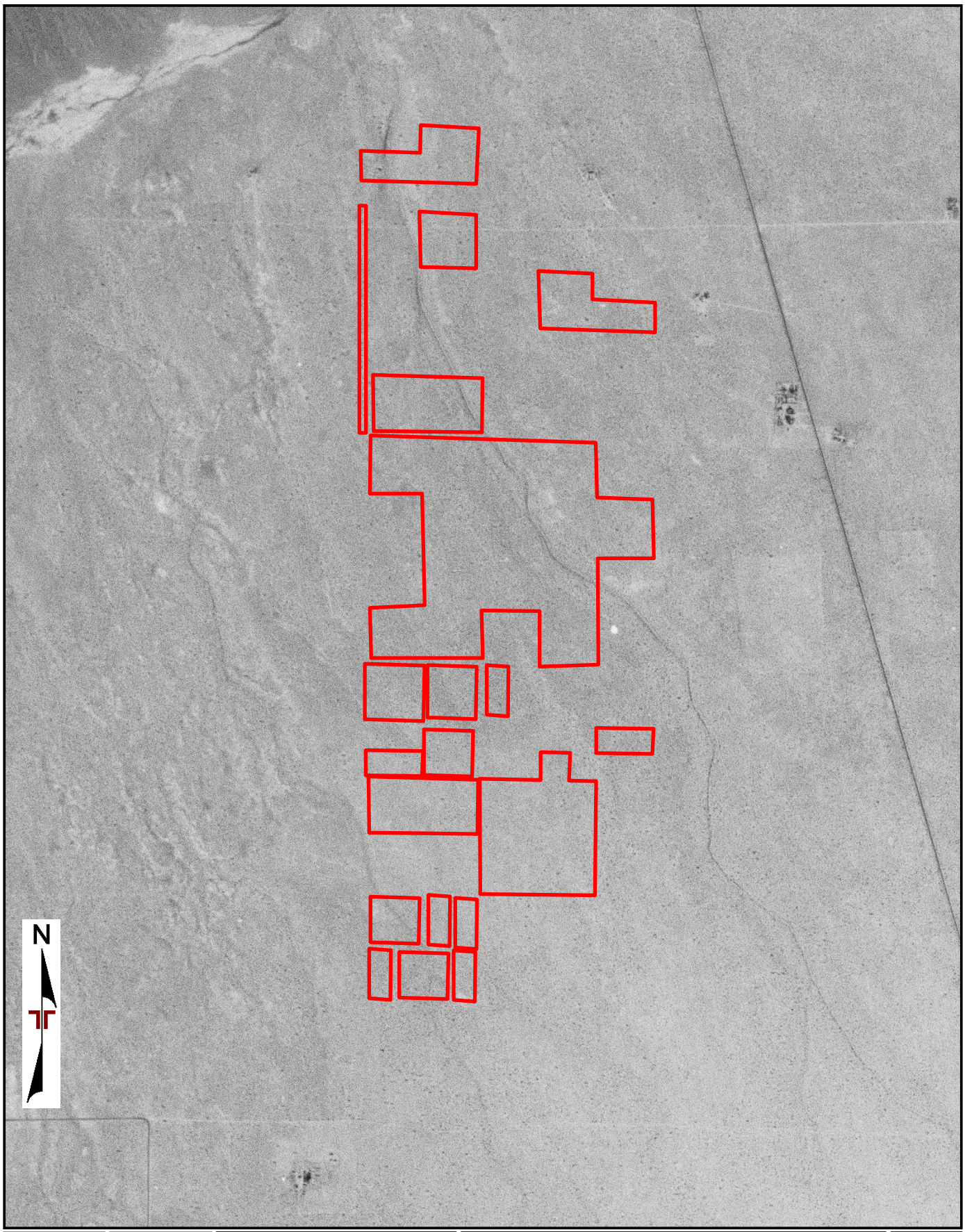
Project Manager: JSV Drawn by: MH Checked by: JSV Approved by: SN	Project No. 60197507.5 Scale: 1:15600 File Name: 20191113089 Date: 2019-11-22	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	AERIAL PHOTO (1959-ASCS) BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	Appendix C



Project Manager: JSV	Project No. 60197507.5	Terracon	AERIAL PHOTO (1952-USGS)
Drawn by: MH	Scale: 1:15600	1421 Edinger Avenue,Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA
Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

C



Project Manager: JSV	Project No. 60197507.5	Terracon	AERIAL PHOTO (1948-USAF)
Drawn by: MH	Scale: 1:15600	1421 Edinger Avenue,Suite C Tustin, California 92780	BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA
Checked by: JSV	File Name: 20191113089		
Approved by: SN	Date: 2019-11-22		

Appendix

C

ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

Project Property:	Site 5 Site 5 Adelanto CA
Project No:	Site 5
Requested By:	Terracon
Order No:	20191113089
Date Completed:	November 22, 2019

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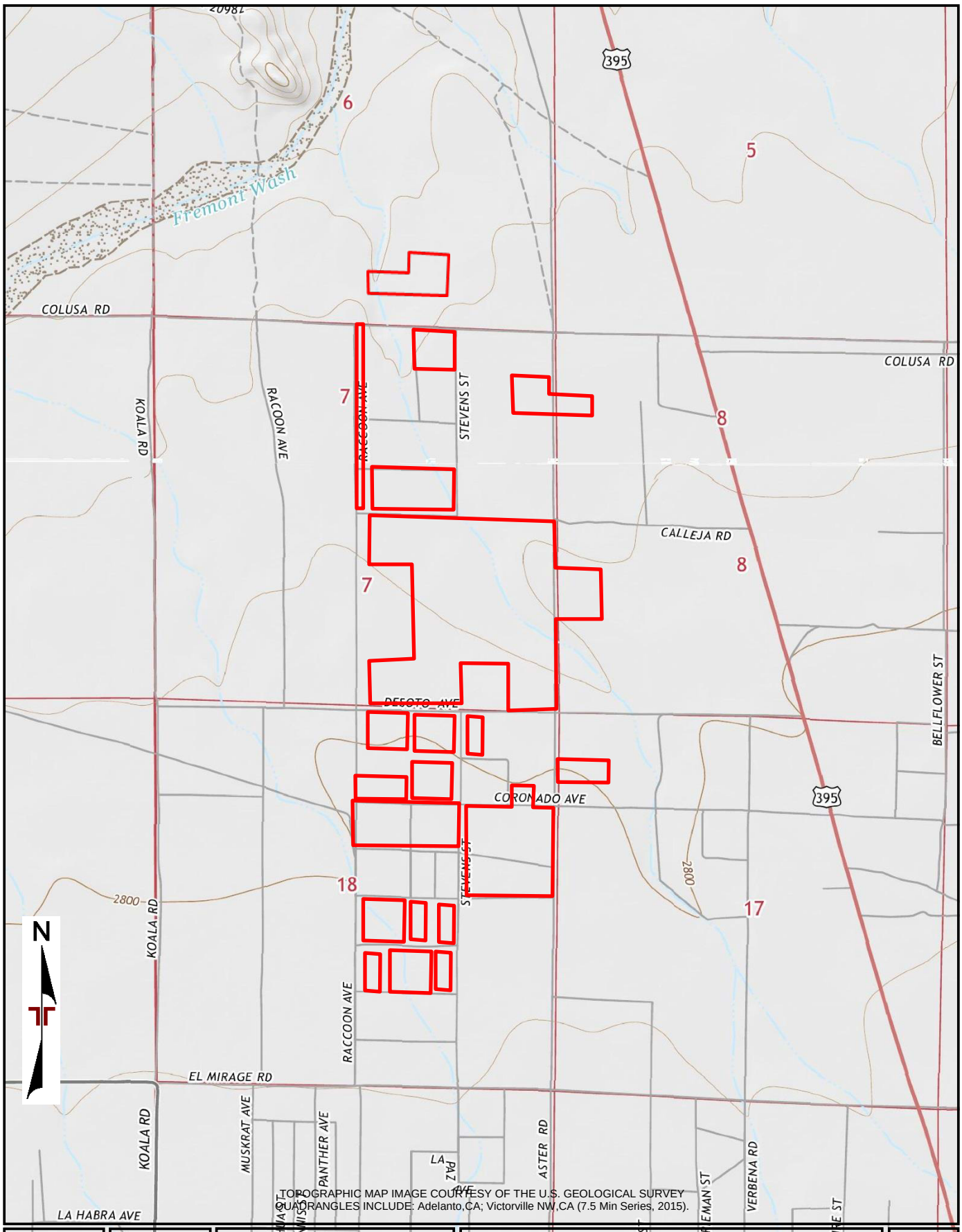
We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

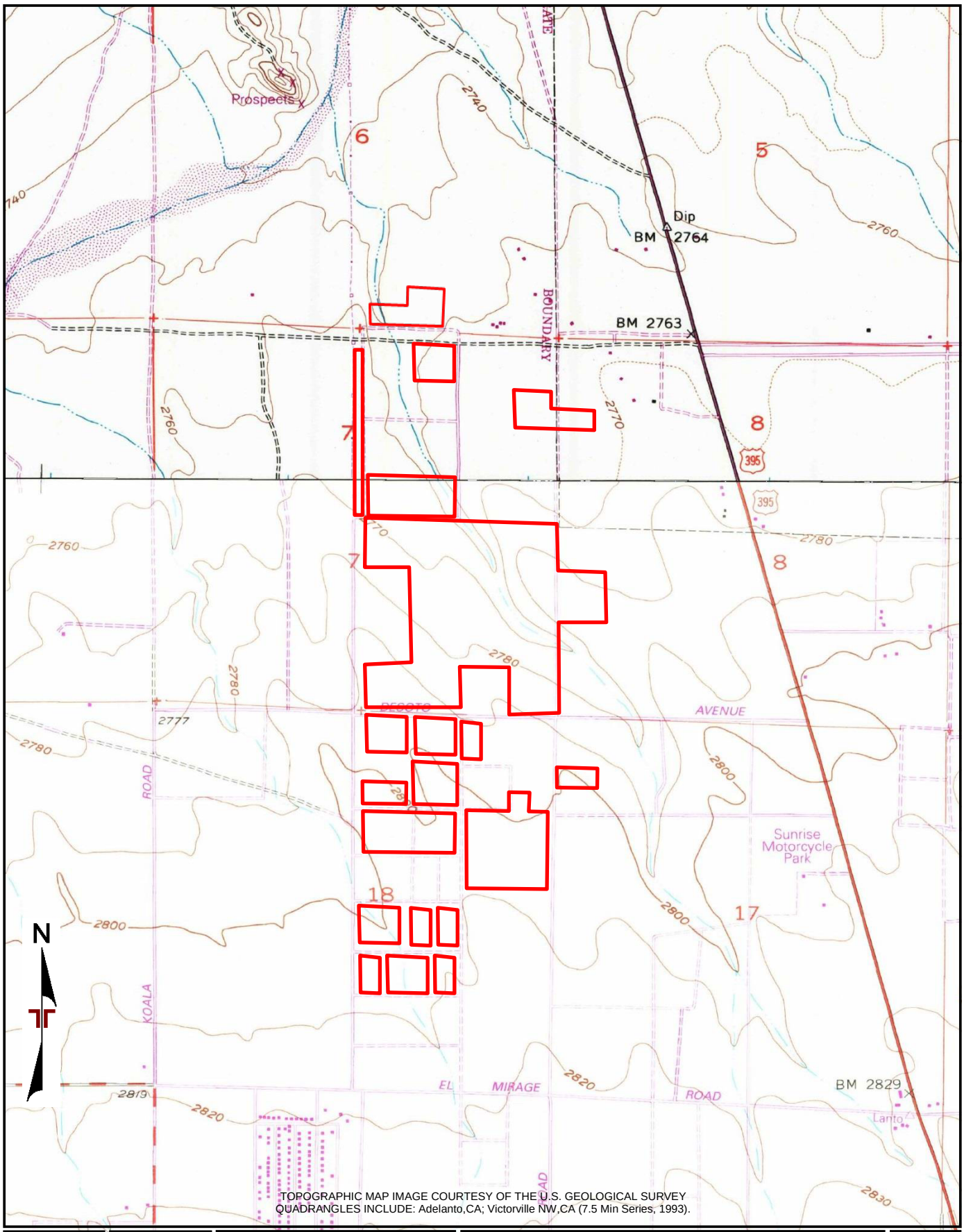
Year	Map Series
2015	7.5
1993	7.5
1980	7.5
1968	7.5
1956	7.5
1956	15

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc. (in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS. This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.



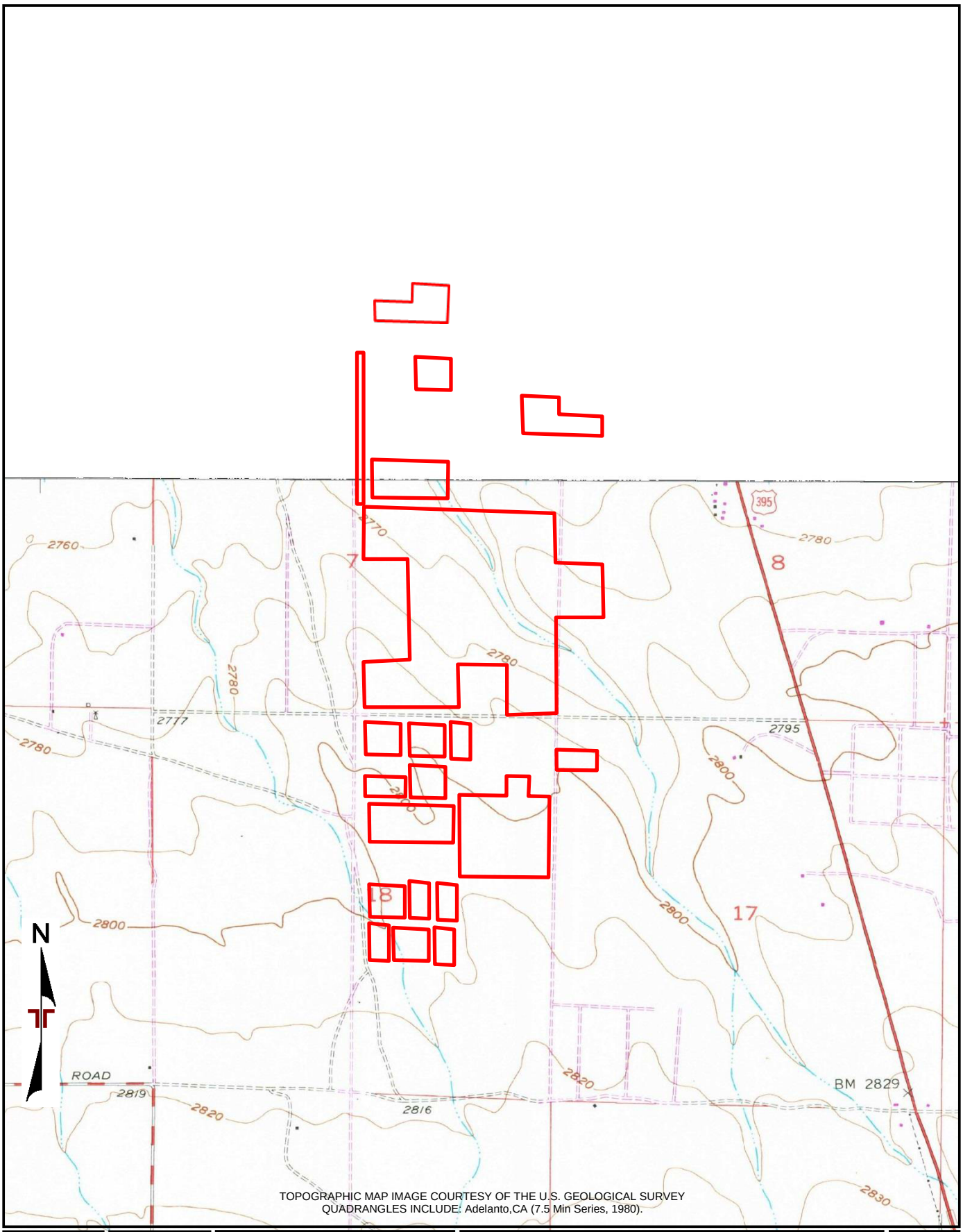
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA; Victorville NW,CA (7.5 Min Series, 2015).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	TOPOGRAPHIC MAP (2015)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	C
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			



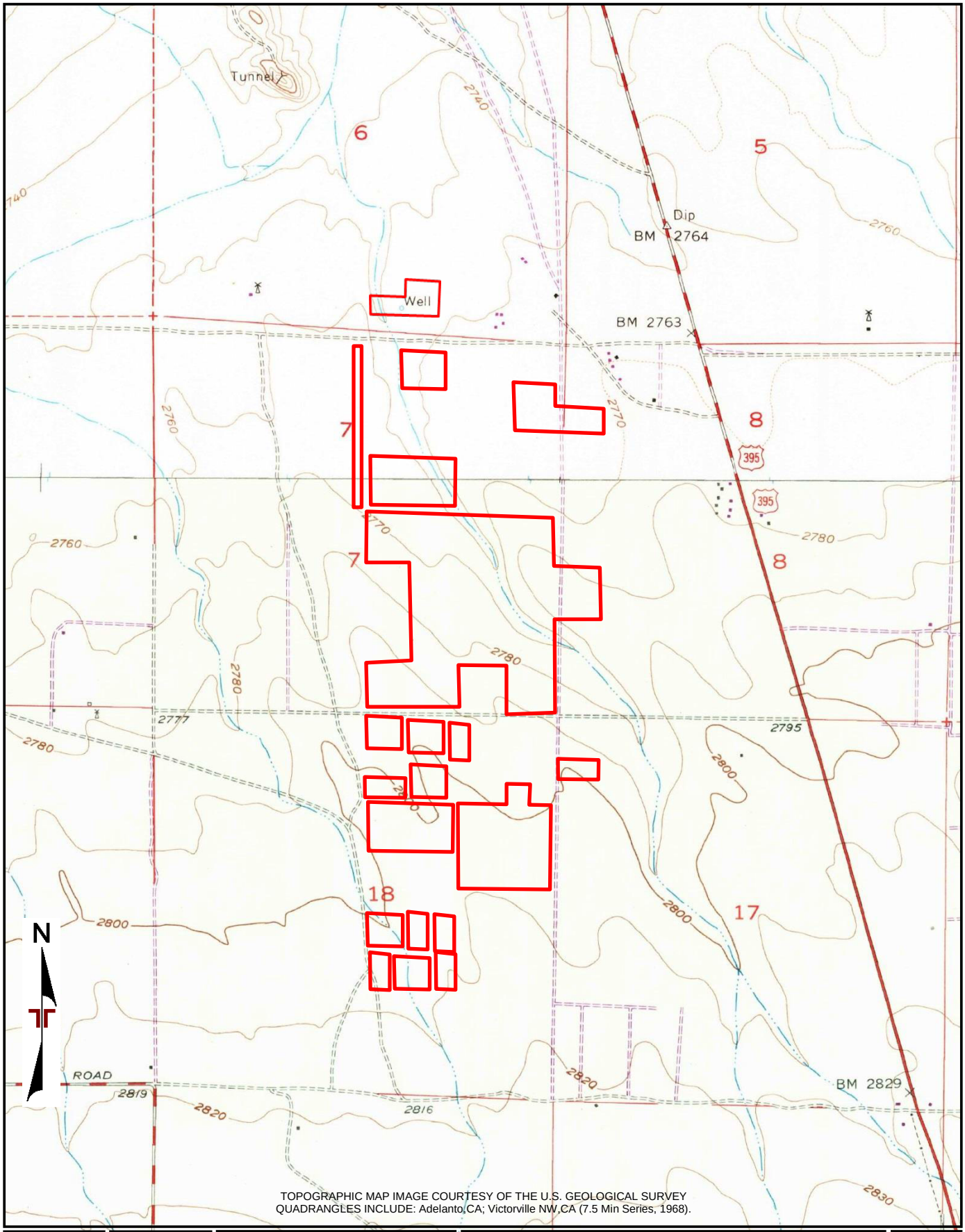
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA; Victorville NW,CA (7.5 Min Series, 1993).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1993) BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			



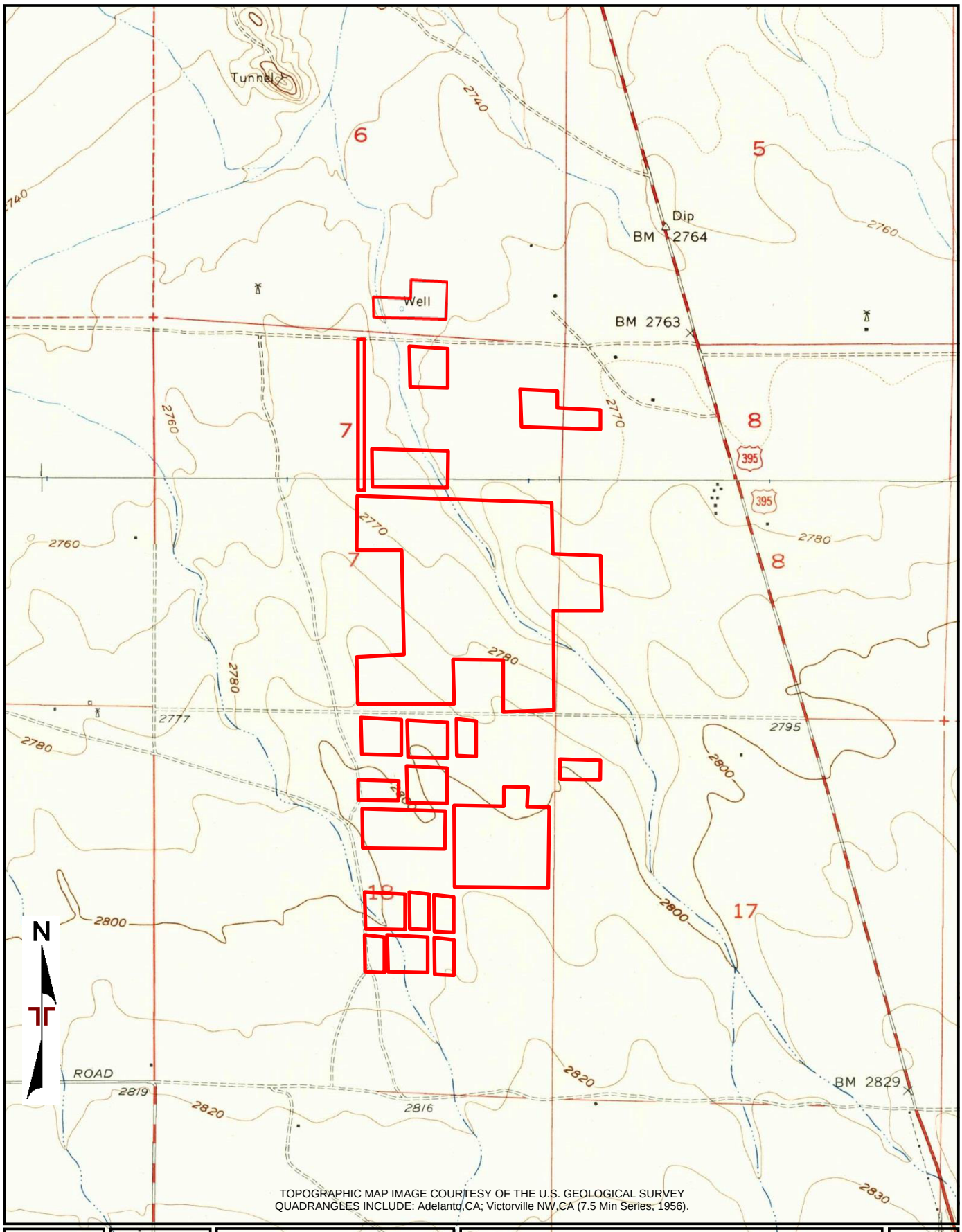
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA (7.5 Min Series, 1980).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1980)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	C
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			



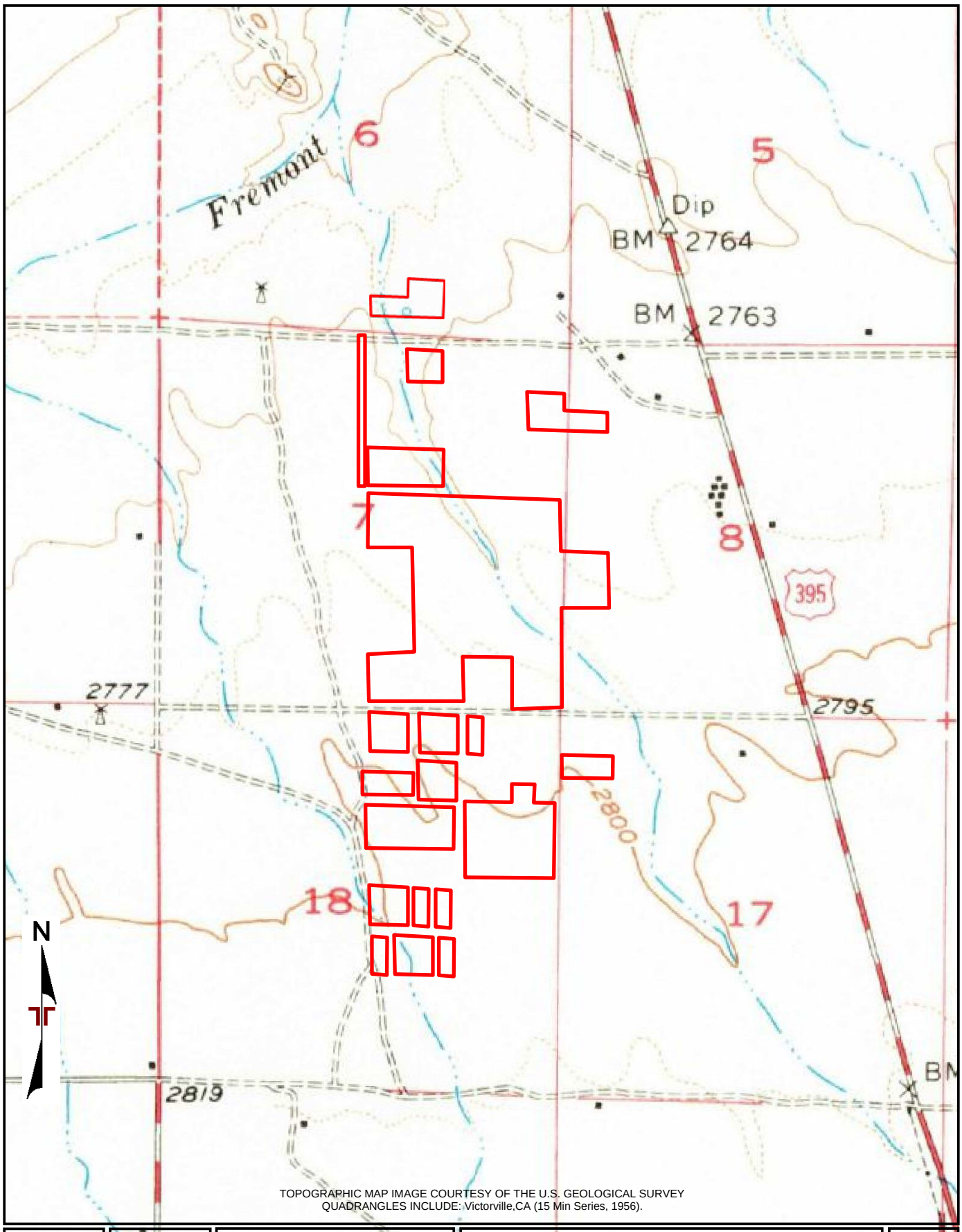
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto, CA; Victorville NW, CA (7.5 Min Series, 1968).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue, Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1968) BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	Appendix C
Drawn by: MH	Scale: 1"=2,000'			
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Adelanto,CA; Victorville NW,CA (7.5 Min Series, 1956).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	C
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: Victorville,CA (15 Min Series, 1956).

Project Manager: JSV	Project No. 60197507.5	Terracon 1421 Edinger Avenue,Suite C Tustin, California 92780	TOPOGRAPHIC MAP (1956)	Appendix
Drawn by: MH	Scale: 1"=2,000'		BALDY MESA SOLAR PHASE II - SITE 5 NORTH OF EL MIRAGE ROAD, EAST OF RACCOON AVENUE, AND WEST OF HIGHWAY 395 ADELANTO, SAN BERNARDINO, CALIFORNIA	C
Checked by: JSV	File Name: 20191113089			
Approved by: SN	Date: 2019-11-22			

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Site 5 Site 5 Adelanto CA
Project No:	Site 5
Requested By:	Terracon
Order No:	20191113089
Date Completed:	November 14, 2019

Please note that no information was found for your site or adjacent properties.

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ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Site 5* *Site 5* *Adelanto, CA*
Project No:	*Site 5*
Requested By:	*Terracon*
Order No:	*20191113089*
Date Completed:	*November 26, 2019*

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November 26, 2019
RE: CITY DIRECTORY RESEARCH
Site 5
Site 5 Adelanto, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

20800-21100 of Aster Road
20550-20625 of US Highway 395
20750-20950 of Aster Way
All of Colusa Road
All of Raccoon Avenue
All of El Mirage Road

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2006	DIGITAL BUSINESS DIRECTORY	
2002	DIGITAL BUSINESS DIRECTORY	
1998	DIGITAL BUSINESS DIRECTORY	
1988	HAINES	
1971	HAINES	

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER WAY

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

COLUSA ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

2620 **EL MIRAGE COUNTRY STORE**...*Food Markets*
2925 **EL MIRAGE FIRE STATION**...*County Govern*
4001 **DUCOMMUN AERO STRUCTURES**...*Aircraft Co*
4281 **DAUGHERTY PUMP & DRILLING**...*Water Well*

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVENUE

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

US HIGHWAY 395

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER WAY

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

COLUSA ROAD

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

1255 **RACING DEVELOPMENT**...*Land Subdivision<*
2476 **EL MIRAGE FEED**...*Farm Supplies Merchan*
2620 **EL MIRAGE COUNTRY STORE**...*Supermarkets*
2925 **EL MIRAGE FIRE STATION**...*Fire Protecti*
4001 **DUCOMMUN AERO STRUCTURES**...*Other Aircr*
4281 **DAUGHERTY PUMP DRILLING**...*Water & Sew*

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVENUE

NO LISTING FOUND FOR THIS YEAR...

2014
SOURCE: DIGITAL BUSINESS DIRECTORY

US HIGHWAY 395

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER WAY

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

COLUSA ROAD

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

1708 **MURPHYS BAR & GRILL**...*Full-service Res*
2476 **EL MIRAGE FEED**...*Farm Supplies Merchan*
2620 **EL MIRAGE MARKET**...*Supermarkets & Othe*
4659 **LAZY 3 CAFE**...*Full-service Restaurants*
5555 **Y C FARM INC**...*All Other Miscellaneous*

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVENUE

NO LISTING FOUND FOR THIS YEAR...

2010
SOURCE: DIGITAL BUSINESS DIRECTORY

US HIGHWAY 395

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER WAY

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

COLUSA ROAD

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

EL MIRAGE ROAD

1708 **MURPHYS BAR & GRILL**...*Full-service Res*
2476 **EL MIRAGE FEED**...*Farm Supplies Merchan*
2620 **EL MIRAGE MARKET**...*Supermarkets & Othe*
4659 **LAZY 3 CAFE**...*Full-service Restaurants*
5555 **Y C FARM INC**...*All Other Miscellaneous*

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVENUE

NO LISTING FOUND FOR THIS YEAR...

2006
SOURCE: DIGITAL BUSINESS DIRECTORY

US HIGHWAY 395

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER WAY

NO LISTING FOUND FOR THIS YEAR...

73 **US LAND MANAGEMENT BUREAU**...*Wildlife C*
12626 **MORGAN RICHHILL HORSE FARM**...<

1708 **MURPHY'S CAFE**...*Steak And Barbecue Res*
2476 **EL MIRAGE FEED**...
2620 **EL MIRAGE COUNTRY STORE**...*Supermarkets*
2620 **EL MIRAGE MARKET**...*Supermarkets*
2925 **EL MIRAGE FIRE STATION**...
3400 **A & H DAIRY**...
4001 **AEROCHEM INC**...
4001 **DUCOMMUN AEROSTRUCTURES**...
4659 **LAZY 3 CAFE**...*Steak And Barbecue Resta*
8801 **AEROCHEM INC**...
11203 **U-HAUL CO**...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVENUE

NO LISTING FOUND FOR THIS YEAR...

2002
SOURCE: DIGITAL BUSINESS DIRECTORY

US HIGHWAY 395

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER ROAD

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

ASTER WAY

NO LISTING FOUND FOR THIS YEAR...

73 **THE INTERIOR BUREAU OF LAND MANAGE**...
73 **UNITED STATES GOVERNMENT DEPARTME**...
12626 **RICHHILL MORGAN HORSE FARM**...*Animal Sp*

. **INLAND WEST FINANCIAL SERVICE**...*Hardwa*
. **INLAND WEST INSURANCE AGENCY**...*Hardwar*
. **INLAND WEST REALTY & INSURANCE**...*Hardw*
. **JONES DAN BROKR**...*Hardware Stores*
1708 **MURPHY'S CAFE**...*Eating Places<*
1708 **MURPHYS CAFE**...*Eating Places*
2475 **EL MIRAGE NURSERY & HARDWARE**...*Hardwar*
2475 **INLAND WEST INSURANCE**...*Hardware Store*
2475 **STONE FRED REALTY**...*Hardware Stores*
2476 **EL MIRAGE FEED**...*Miscellaneous Retail*
2476 **EL MIRAGE VCR REPAIR**...*Miscellaneous R*
2476 **ELMIRAGE VCR REPAIR**...*Miscellaneous Re*
2620 **EL MIRAGE COUNTRY STORE**...*Fruit And Ve*
2875 **CHAMBER OF COMMERCE OF EL MIRAGE**.....
2875 **EL MIRAGE CHAMBER OF COMMERCE**...*Busine*
2875 **INLAND WEST REALTY**...*Hardware Stores*
2925 **SAN BERNARDINO COUNTY OF FIRE DEPAR**...
2925 **SAN BERNARDINO FIRE DEPT CNTY EL MI**...
2925 **SAN BERNARDINO FIRE DEPT EL MIRAGE** ...
3400 **A & H DAIRY**...*Dairy Products, Except D*
4659 **LAZY 3 CAFE**...
8801 **AEROCHEM INC**...*Building Maintenance Se*
11203 **EMPIRE ONE TOW SERVICE**...*Automotive Se*

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

RACCOON AVENUE

NO LISTING FOUND FOR THIS YEAR...

1998
SOURCE: DIGITAL BUSINESS DIRECTORY

US HIGHWAY 395

NO LISTING FOUND FOR THIS YEAR...

1988
SOURCE: HAINES

ASTER ROAD

NO LISTINGS IN RANGE

1988
SOURCE: HAINES

ASTER WAY

STREET NOT LISTED

1988
SOURCE: HAINES

COLUSA ROAD

12449 **MULTI TENANT RESIDENTIAL**
12626 **RICHHILL MORGAN FRM**
12626 **TROWER RICHARD**
12666 **XXXX**

1988
SOURCE: HAINES

EL MIRAGE ROAD

. **AEROCHEM INC**
. **OWEN M**
. **SLATER FRANK**
. **STONE FRED REALTY**
. **WOODCREST RANCH**
1064 **XXXX**
1164 **SANTOYO A**
1166 **BUNCH ROBERT**
1434 **CHAMBERS KEITH**
1452 **XXXX**
1488 **PALAND LUDWIG**
1492 **MULTI TENANT RESIDENTIAL**
1494 **NORVILLE HOWARD**
1624 **MURPHY G**
1624 **MURPHYS CAFE**
1708 **XXXX**
1720 **MULTI TENANT RESIDENTIAL**
1768 **XXXX**
1950 **FORONJY N RALPH**
1951 **MULTI TENANT RESIDENTIAL**
2055 **TURCOTTE DAVID M**
2077 **BOYD WILLIAM F**
2414 **XXXX**
2425 **WAGNER FRED W**
2476 **MCSMITH TROY L**
2515 **XXXX**
2723 **MULTI TENANT RESIDENTIAL**
2750 **RESSEGUE BILL**
3920 **XXXX**
4281 **WARD WIN**
4659 **LAZY 3 CAFE**
5115 **XXXX**
5225 **BERRY ROBLEY H**
8801 **AEROCHEM INC**
8870 **WARREN COY L**

1988
SOURCE: HAINES

RACCOON AVENUE

STREET NOT LISTED

1988
SOURCE: HAINES

US HIGHWAY 395

. **BOWMAN E R**
. **CARDINAL AUTO WRCKG**
. **KING EVELYN**
. **KING JAMES F**
. **OREWYLER KAZUE T**
. **STEINHAUSER J**
. **SUNRISE VLY CYCL PK**
14530 **ANNO STANLEY C**
14530 **APARTMENTS**
14530 **BEAVEA JAMES H**
14530 **BERNER STEVE L**
14530 **GOLDEN POND RV PARK**
14530 **LABUSEWYCZ BERNIE**
14530 **SCHLEGEL JOANE**
14530 **SCHLEGEL RALPH**
14530 **SEXTON G**
20554 **JIMS C B REPAIR**
20554 **JIMS ELECTRONICS**
20556 **SHEAL Y ROBERT**
20558 **XXXX**
20562 **XXXX**

1971
SOURCE: HAINES

ASTER ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

ASTER WAY

STREET NOT LISTED

1971
SOURCE: HAINES

COLUSA ROAD

. **WYCHERLY DAN**
12666 **KING RODGER**

1971
SOURCE: HAINES

EL MIRAGE ROAD

STREET NOT LISTED

1971
SOURCE: HAINES

RACCOON AVENUE

STREET NOT LISTED

1971
SOURCE: HAINES

US HIGHWAY 395

STREET NOT LISTED

--- END REPORT ---

APPENDIX D
ENVIRONMENTAL DATABASE INFORMATION

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Site 5* *Site 5* *Adelanto CA*
Project No:	
Report Type:	*Database Report*
Order No:	*20191113089*
Requested by:	*Terracon Consultants, Inc.*
Date Completed:	*November 14, 2019*

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Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

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Executive Summary

Property Information:

Project Property:		*Site 5* *Site 5 Adelanto CA*
Project No:		
Coordinates:		
	Latitude:	*34.610566*
	Longitude:	*-117.439143*
	UTM Northing:	*3,829,945.31*
	UTM Easting:	*459,738.44*
	UTM Zone:	*UTM Zone 11S*
Elevation:		*2,806 FT*

Order Information:

Order No:	*20191113089*
Date Requested:	*November 13, 2019*
Requested by:	*Terracon Consultants, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials Photographs*
City Directory Search	*CD - 4 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*
terraDOCS Report	*terraDOCS (Terracon)*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	0	0	-	-	0
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	0	-	-	0
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	0	0	0
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	.5	0	0	0	0	-	0
LDS	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	0	0	-	0
DELISTED LST	Y	.5	0	0	0	0	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	0	-	-	0
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	0	0	-	-	0
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	0	-	0
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
SANBERN CUPA	Y	.25	0	0	0	-	-	0
Additional Environmental Records								
Federal								
PFAS NPL	Y	.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
PFAS	Y	.5	0	0	0	0	-	0
PFAS GW	Y	.5	0	0	0	0	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	0	-	-	-	0
DELISTED HAZ	Y	.5	0	0	0	0	-	0
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	0	0	-	-	0
CDL	Y	.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental databases were selected to be included in the search.***							
Total:			*0*	*0*	*0*	*0*	*0*	*0*

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

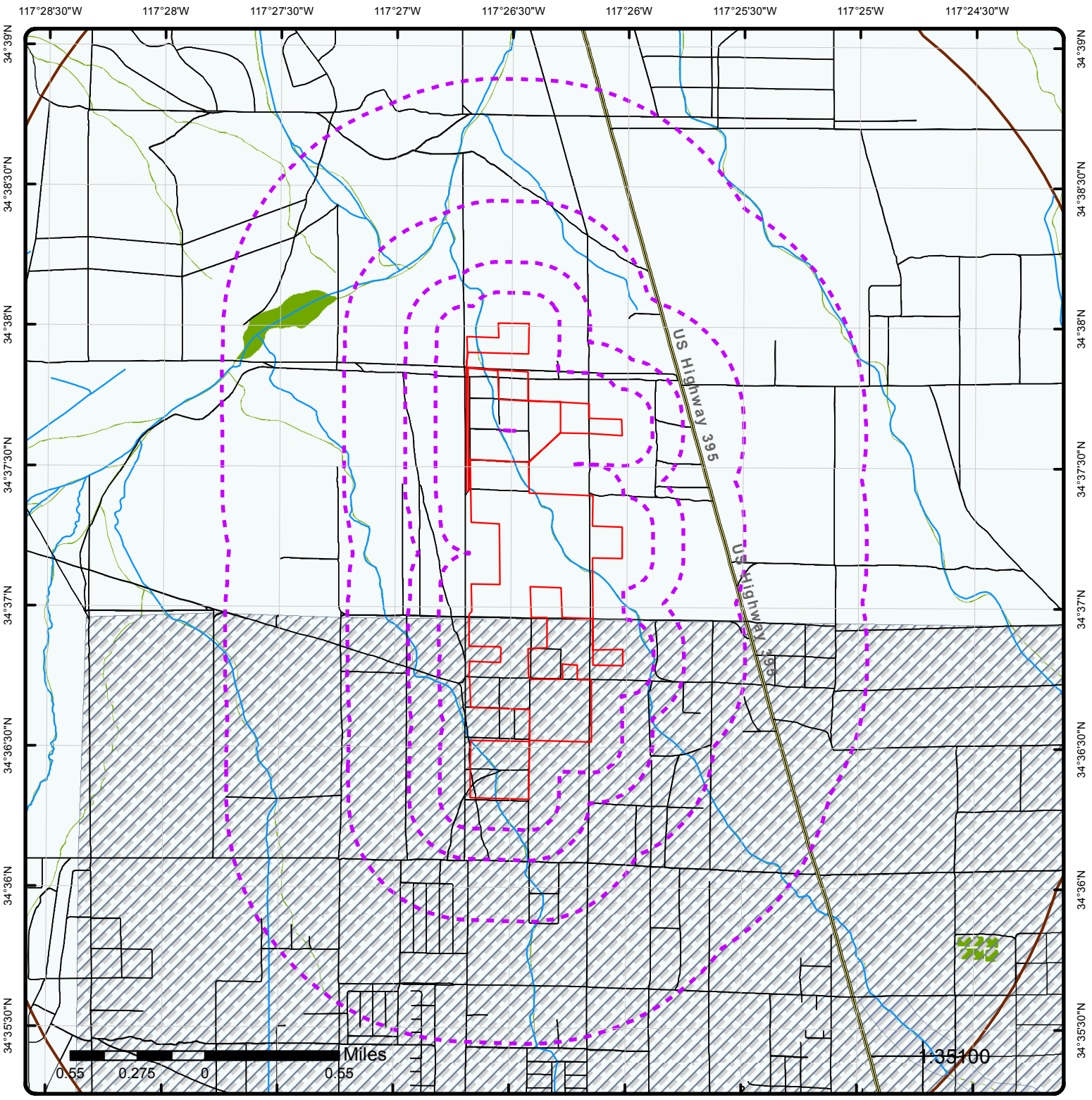
Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the surrounding properties.

Executive Summary: Summary by Data Source

No records found in the selected databases for the project property or surrounding properties.



Map : 1 Mile Radius

Order No: 20191113089

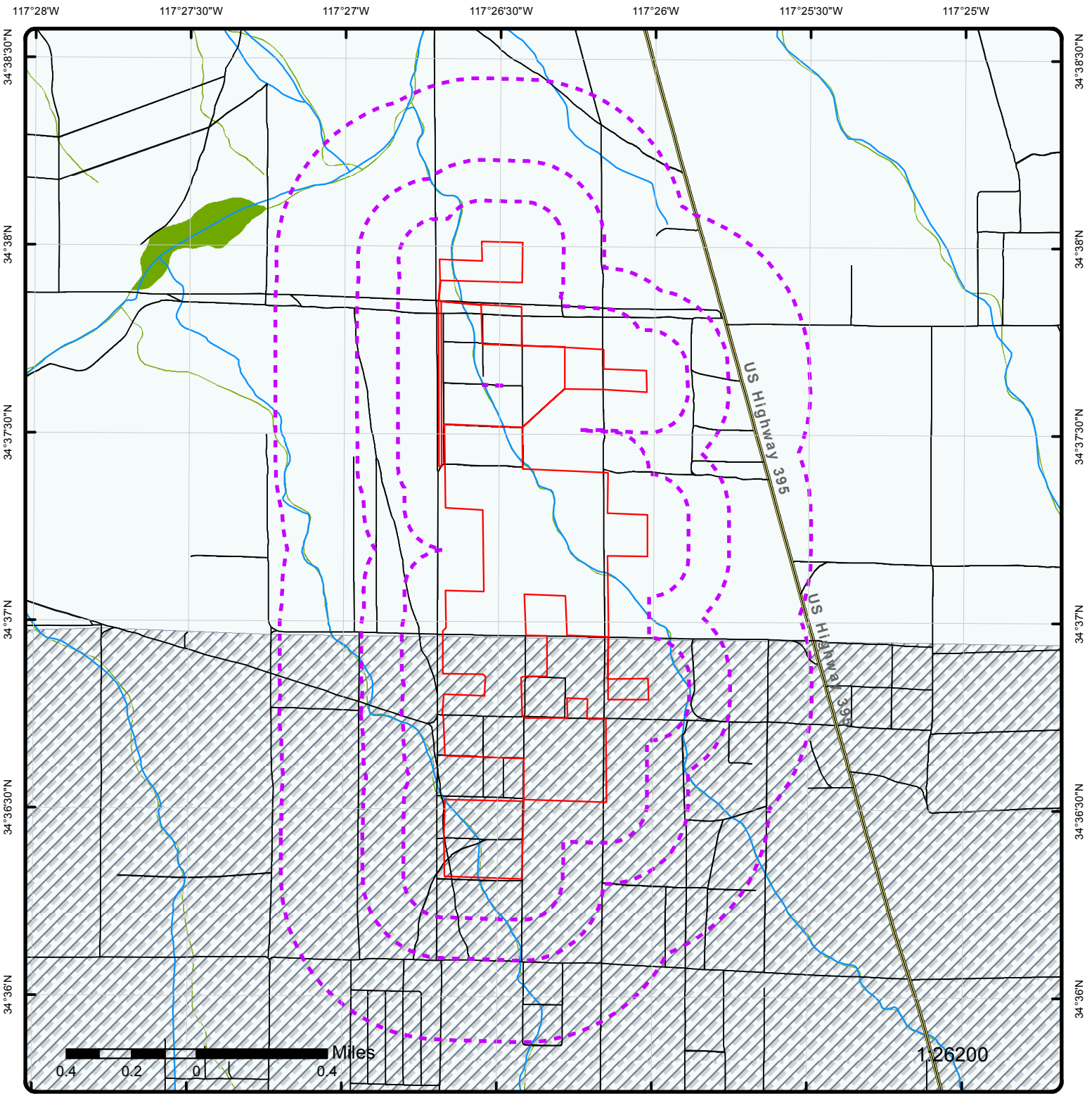
Address: Site 5, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

© ERIS Information Inc.



Map : 0.5 Mile Radius

Order No: 20191113089

Address: Site 5, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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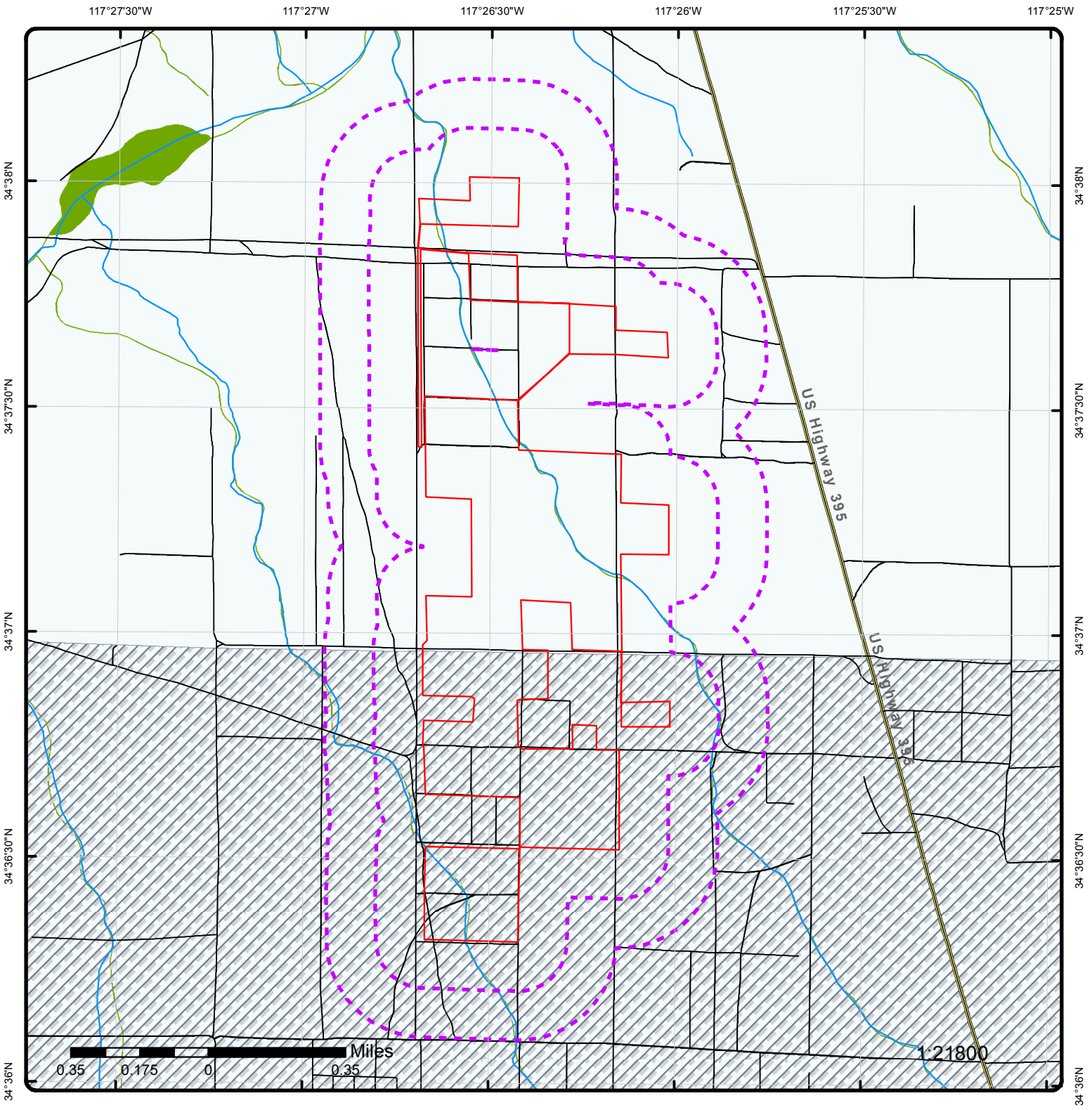


Map : 0.25 Mile Radius

Order No: 20191113089

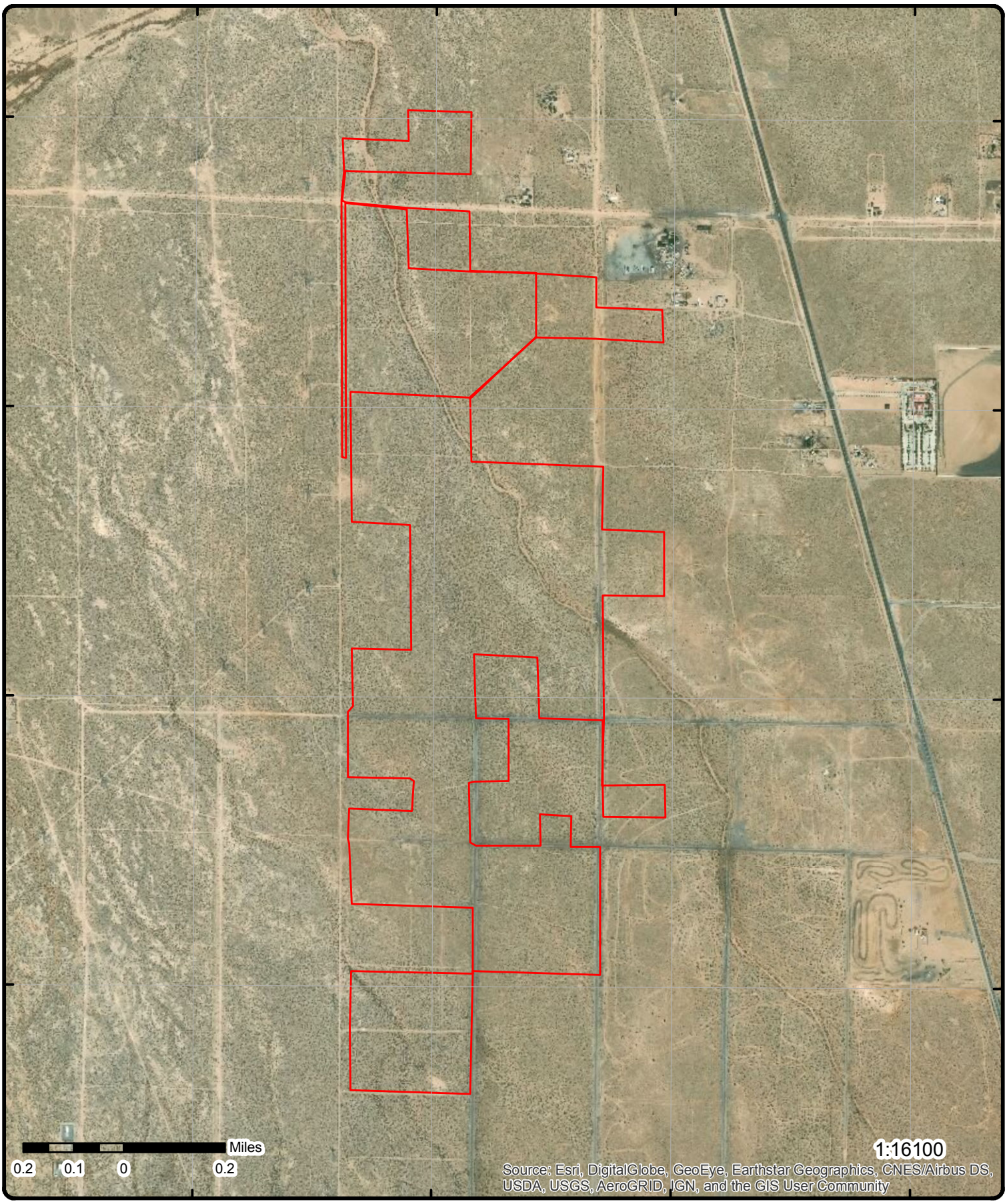
Address: Site 5, Adelanto, CA

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

© ERIS Information Inc.



Aerial (2018)

Address: Site 5, Adelanto, CA

Source: ESRI World Imagery

Order No: 20191113089

ENVIRONMENTAL RISK INFORMATION SERVICES

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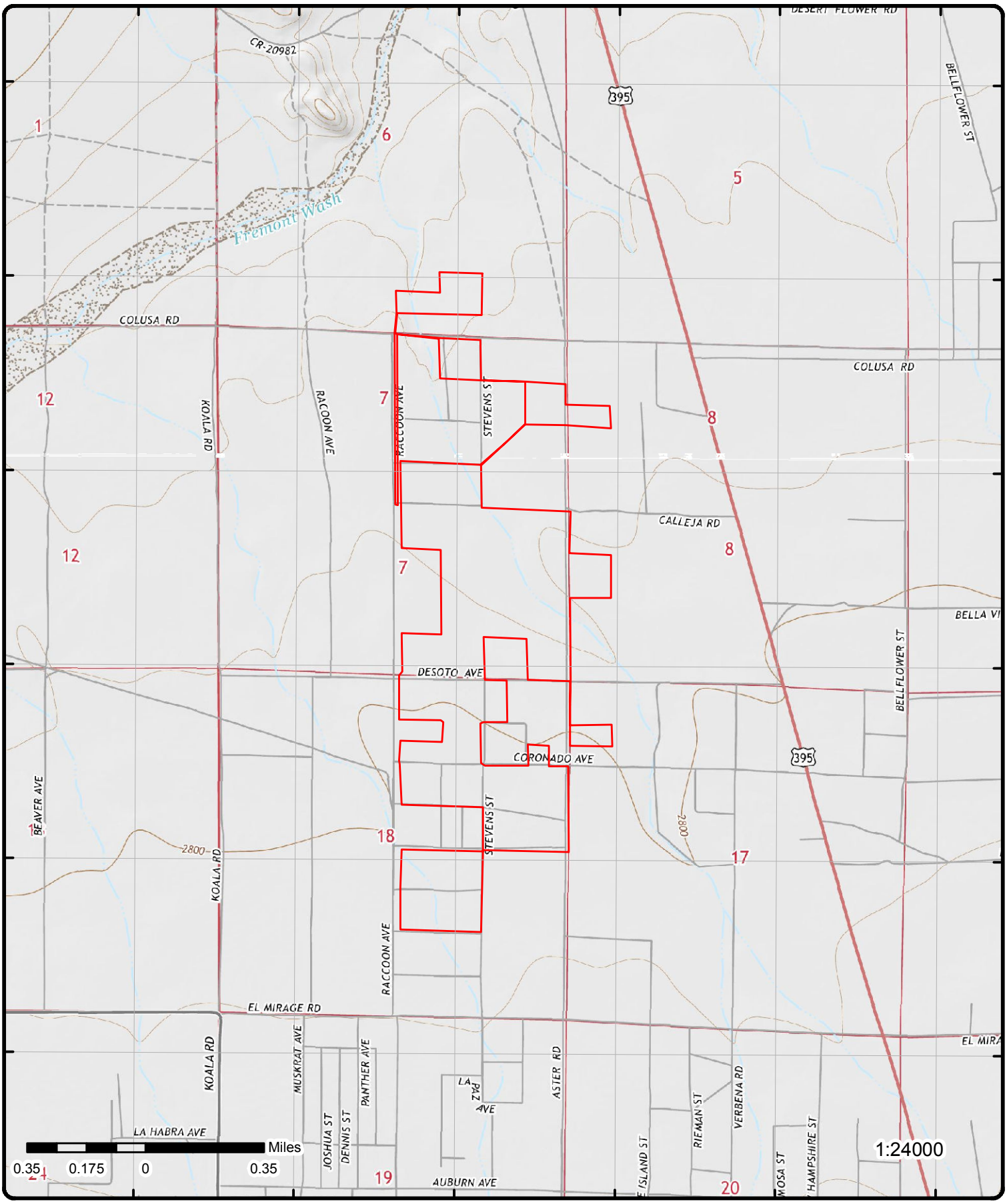

Topographic Map (2015)

Address: Site 5, Adelanto, CA

Quadrangle(s): Victorville NW,CA; Adelanto,CA;

Source: USGS Topographic Map

Order No: 20191113089

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

No records found in the selected databases for the project property or surrounding properties.

Unplottable Summary

Total: 2 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		ON JUNIPER RD, N OF BARTLETT	ADELANTO CA	92301	820117945
CHMIRS	Private Citizen	A mile and a half east of Aster drive	Adelanto CA	92301	877614188

Unplottable Report

Site:
ON JUNIPER RD, N OF BARTLETT ADELANTO CA 92301

CDL

Clue: 2001-12-036
Date: 12/7/2001
County: SAN BERNARDINO
Lab Type: A
Lab Type Description: Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site: ***Private Citizen***
A mile and a half east of Aster drive Adelanto CA 92301

CHMIRS

Clean Control No: 19-2576
Notified Date Time:
County: San Bernardino County
URL:
Notified Date: 4/20/2019 7:17:00 AM
Year: 2019

Spill Report View

Amount 1:
Amount 2:
Amount 3:
Type: UNSPECIFIED
Water:
On Scene:
Other on Scene:
Other Notified:
Document Title: SPILL Report
Spill Site: Road
Cause Desc for Other:
Person Notifying Cal OES:
Creation Date: 04/20/2019 07:17 AM
Received By:
Admin Agency:
Admin Agency 2:
Additional County:
Phone No:
Ext:
Pag Cell:

Hazardous Materials Spill Report

Control Cal OES: 19-2576
Control NRC:
Date : 04/20/2019
Incident Date: 04/19/2019
Time: 0717
Incident Time: 1500
Water Involved: No
Drink Wtr Impact: No
Qty 1: =
Measure 1: Bbl.(s)
Type 1: UNSPECIFIED
Pipeline 1: No
Ves >= 300 Tons 1: No
Qty 2: =
Amount 2: 1
Measure 2: Bbl.(s)
Type 2: UNSPECIFIED
Other 2:
Pipeline 2: No
Vessel >= 300 Tns 2: No
Qty 3: =
Amount 3:
Measure 3:
Type 3:
Other 3:
Pipeline 3: No
Ves >= 300 Tons 3: No
Name:
Phone:
Ext:
Pag Cell:
PRS Name:
PRS Phone:
PRS Ext:
PRS Pag Cell:
Received By:
Header Unknown: MOJAVE DESERT AQMD
Incident Desc:
R R Crssing < 50 Ft:
Uprr Rim :
Notification Info:
Notification List:
DOG Unit:
RWQCB Unit: 6B
Injuries: No
Fatality: No

Incident Location:	A mile and a half east of Aster drive
Reported Cause:	Other
	Description for Other : Illegal Dumping
Amount 1:	1
Substance 1:	Green Foam
Substance 2:	Black material
Substance 3:	
Waterway:	
Contained:	Stopped
Known Impact:	None
Other 1:	
Detail for Other:	
Site:	Road
On Scene:	
Other on Scene:	
Other Notified:	PD
Evacuation:	No
Cleanup By:	Unknown
Agency:	Private Citizen
PRS Agency:	
Admin Agency:	
Sec Agency:	
Additional County:	
Admin Agency 2:	
Description:	RP states: They found a Facebook posting showing 3 barrels of unspecified liquid illegally dumped. One barrel was empty and the other 2 barrels were halfway full. Clean up is unknown at this time. There are about 40 volatile unregulated cannabis extraction companies in the area.

California Hazardous Material Incident Report System (2019)

Incident Date:	4/19/2019	***Dog No:***	
Time :	1500	***A2 Substance:***	Black material
Spill Site:	Road	***A2 Quantity:***	1
Site:		***A2 Measure:***	Bbl.(s)
Contained:	Stopped	***A2 Type:***	UNSPECIFIED
Water :	No	***A2 Other:***	
Water Way:		***A2 Pipeline:***	No
Injuries Yes/No:	No	***A2 Vessel 300 Tons:***	No
Injuries No:		***A3 Substance:***	
Fatals Yes/No:	No	***A3 Quantity:***	
Fatals No:		***A3 Measure:***	
Evacs Yes/No:	No	***A3 Type:***	
Evacs No:		***A3 Other:***	
Cleanup:	Unknown	***A3 Pipeline:***	No
Admin Agency:		***A3 Vessel 300 Tons:***	No
Cause:	Other	***Cause Other:***	Illegal Dumping
A1 Substance:	Green Foam	***Drink Water Impact:***	No
A1 Other:		***Known Impact:***	None
A1 Quantity:	1	***Location:***	A mile and a half east of Aster drive
A1 Measure:	Bbl.(s)	***City:***	Adelanto
A1 Type:	UNSPECIFIED	***County:***	San Bernardino County
A1 Pipeline:	No	***Zip:***	92301
A1 Vessel 300 Tons:	No		
Description:	RP states: They found a Facebook posting showing 3 barrels of unspecified liquid illegally dumped. One barrel was empty and the other 2 barrels were halfway full. Clean up is unknown at this time. There are about 40 volatile unregulated cannabis extraction companies in the area.		
Notification Area:	AA/CUPA,DTSC,RWQCB,US EPA,USFWS,Co/WP,Co/Hlth,Co/E-Hlth		

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Aug 20, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Aug 20, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Aug 20, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Aug 20, 2019

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Aug 20, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Aug 26, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Aug 26, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Aug 26, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Aug 26, 2019

RCRA Conditionally Exempt and Very Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Aug 26, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Aug 26, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jun 11, 2019

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Jun 11, 2019

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Oct 8, 2019

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Aug 20, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Aug 20, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Oct 1, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Oct 1, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Oct 1, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Aug 19, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Oct 1, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Jul 17, 2019

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jul 17, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Oct 8, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 17, 2019

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Oct 8, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Sep 11, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Oct 1, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Sep 23, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jul 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Oct 1, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jul 17, 2019

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Oct 4, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Aug 19, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 11, 2019

County

San Bernardino County - CUPA List: SANBERN CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in San Bernardino County. This list is made available by San Bernardino County Fire Department which is the CUPA for all areas of the County except the city of Victorville.

Government Publication Date: Oct 17, 2019

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Nov 15, 2018

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Aug 12, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Sep 26, 2019

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Aug 20, 2019

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: May 3, 2019

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Oct 1, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: May 31, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Jul 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jul 17, 2019

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.Y

Government Publication Date: Oct 17, 2019

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Aug 27, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Jul 16, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Oct 1, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jul 15, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Aug 19, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Jul 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Jul 17, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Jun 30, 2018

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX E
CREDENTIALS

Jennifer S. Van

Project Manager



PROFESSIONAL EXPERIENCE

Ms. Van is an Environmental Group Manager in Terracon's Orange County, California Office. She has over seven years of experience in Environmental Services; Phase I Environmental Site Assessments (ESAs), Limited Subsurface Investigations (LSIs), Spill Prevention, Control and Countermeasure Plans, Radon Measurement Provider. In addition, Ms. Van has some experience with regulatory compliance. Ms. Van assists with client and team management.

PROJECT EXPERIENCE

Environmental Site Assessment (ESAs):

Performed and managed hundreds of ESAs in California and several in Hawaii and Alaska for industrial, commercial, residential, and agricultural properties. Managed long-term national accounts for financial institutions (equity and loan portfolios), real estate investment trusts, developers and other real property owners. Understands facility operating systems; state and federal regulations; and fate and transport of chemicals through air, soil, vapor, surface water and groundwater. Is experienced in the performance of ESAs under the All Appropriate Inquiry rules (ASTM 1527-13), and meets the requirements of an Environmental Professional as defined in Section 312.10 of 40 CFR 312.

Radon Assessments

Performed and managed over 10 radon assessments including commercial and residential in California.

Limited Subsurface Investigations (LSIs):

Performed and managed over 10 LSI's in California. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data.

Spill Prevention, Control And Countermeasure Plans (SPCCs)

Ms. Van has experience with federal and state requirements for Spill Prevention, Control and Countermeasure Plans for Tier I and II qualified facilities.

EDUCATION

Bachelor of Science,
Environmental Sciences: Natural Sciences.
Minor: Business Administration
University of California Riverside, California, 2011.

Masters: Environmental Engineering
California State University, Fullerton, 2018

CERTIFICATIONS

24-Hour AHERA Asbestos Abatement Building Inspector
40-Hour OSHA HAZWOPER
National Radon Proficiency Program
Residential Measurement Provider

WORK HISTORY

Terracon Consultants, Inc. (Tustin, CA). Environmental Group Manager
February 2018 to Present

Terracon Consultants, Inc. (Irvine, CA). Senior Staff Scientist
2014 to February 2018

Terracon Consultants, Inc. (Irvine, CA). Staff Scientist
August 2011 to 2014

Regulatory Compliance, Buena Park and Tipton, California
Project Manager for two regulatory compliance projects in Buena Park and Tipton, California, which included refrigeration and multiple dairy facilities.

Military Base Phase I ESAs and Soil Management Plans – San Diego County, California
Project Manager of ESAs and SMPs of over 100 sites for proposed telecommunication small cell locations within naval bases located within the San Diego County. Findings of the ESAs were utilized in creation of the SMPs, which was implemented at the installation of telecommunications utilities on the various bases.

Automotive Body Shop Portfolio, California
Portfolio assistant manager of environmental consulting services including Phase I ESA. The purpose of the services were to assist a client with a large acquisition of properties.

Meg Haile

Assistant Scientist

PROFESSIONAL EXPERIENCE

Meg is an assistant scientist in Terracon's Tustin, California office, she transferred from the Houston, Texas office in October of 2019. In the Tustin office she helps prepare Phase I Environmental Site Assessment (ESA) reports. These efforts involve field survey, interviews with property owners, Environmental Data Resource reports and file reviews at local county and city regulatory offices. As required, each ESA is prepared and finalized in accordance with new ASTM Standards. In the Houston office Meg worked within the Regulatory Compliance department. There she assisted project managers in preparation of Stormwater Pollution Prevention Plans (SWPPPs), Spill Prevention Control and Countermeasures (SPCCs), Municipal Separate Storm Sewer System permits (MS4) and Texas Department of Transportation (TXDOT) outfall mapping. She added in the field monitoring and sampling to confirm her clients were in compliance with necessary permits.

PROJECT EXPERIENCE

Solar Farm – Adelanto, California

Meg aided in the site reconnaissance of vacant land to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

Food Processing LECA – Vernon, California

Meg aided in the drafting of a Limited Environmental Compliance Assessment determining if the facility was in compliance and up to date with all necessary environmental permits. This included reaching to government agencies to obtain current permits and inspecting documents provided by the client to determine what corrections needed to be made.

Food Processing ESA – Vernon, California

Meg aided in the site reconnaissance of an industrial food production facility to determine if there were any recognized environmental conditions (REC) existing that needed to be identified. She helped with drafting of the Phase I ESA and research into the property to determine if there were any historical RECs.

EDUCATION

Bachelor of Science,
Wildlife and Fishery Science,
Texas A&M University, College Station, TX

WORK HISTORY

Terracon Consultants, Inc.,
Assistant Scientist,
July 2019 – Present

Texas A&M University,
Student Researcher,
2017-2018

DBS Allergy,
Allergy Technician,
2016-2019

Resumes

Islam (Sami) R. Noaman, EIT

Senior Associate / Senior Project Manager



PROFESSIONAL EXPERIENCE

Mr. Noaman is an Environmental Department Manager with track record in client management, management of phases of environmental site assessments (ESAs), industrial hygiene services, business environmental risk reviews, site characterizations, regulatory compliance services, and remedial investigation. He possesses excellent analytical, problem solving, advisory, and team management skills.

PROJECT EXPERIENCE

Stormwater Prevention and Pollution Control Plan (SWPPP):
Managed SWPPP for numerous industrial sites in Southern California. Scope of the work typically included client and agency coordination, implementation of guidelines required by the state of California Water Resources Board (SWRB), and preparation of documentations for submittals to the SWRB. In addition, I have managed several limited regulatory compliance projects (annual submittals and Level 1 ERA reporting) for industrial stormwater, to achieve compliance in accordance with the NPDES general permit requirements.

Limited Subsurface Investigations (LSIs):
Performed and managed hundreds of LSIs in California, New Jersey, and New York. Investigated environmental conditions in soils and groundwater as a result of releases from a variety of sources, including service stations, dry cleaners, and a wide range of industrial and manufacturing operations. Specialized in collection and interpretation of data to pursue closure through state and federal programs including Los Angeles County Site Mitigation Unit, the California Regional Water Quality Control Board, and the Department Of Toxic Substances Control Voluntary Cleanup Programs (VCP).

Hazardous Materials Surveys:
Mr. Noaman is the Industrial Hygiene Manager in the Orange County, California office. He managed numerous hazardous materials surveys in the state of california including, but not limited to, asbestos, lead in paint, mold, pcbs, and mercury-containing equipment.

EDUCATION

Bachelor of Science, Chemistry/Environmental Chemistry, 2002, City University of New York, City College of New York

Pursuing Masters in Environmental Engineering (California State University Fullerton-expected graduation date Spring 2019)

CERTIFICATIONS

Certified Engineer In Training (CA) Certification No. EIT 171371
40-Hour OSHA Hazardous Waste Operations & Emergency Response Training Course

WORK HISTORY

Terracon Consultants, Inc. (Irvine, CA), Environmental Group/Department Manager, June 2012 to Present

Smith Emery GeoServices (SEG), (Los Angeles, CA), Project Engineer, August 2008 to June 2012

KLK Environmental Group LLC. (Kearny, NJ). Environmental Scientist -August 2003 to June 2008

UniChem Inc. (Kearny, NJ). Staff Environmental Chemist - August 2002 to June 2003

Islam (Sami) R. Noaman, EIT (continued)

Major Department Store Commercial Retail Portfolio:
Environmental team lead for evaluating environmental site conditions and due diligence review, including overseeing Phase I Environmental Site Assessments and Phase II Environmental Site Investigations for over thirty retail facilities with automotive maintenance across California. Findings from subsurface investigations were used to support regulatory closure of select facilities to facilitate a real estate transaction across the United States.

Industrial Facility – Land-use Change/Private School, Los Angeles, CA:
Environmental consulting services including Phase I Environmental Site Assessments (ESA) due diligence support, subsurface investigation activities to evaluate environmental media including soil, soil gas and indoor / outdoor air. Services included a land-use change from an industrial facility to a private school. Prepared environmental investigation reports, regulatory interaction, corrective action design for indoor air mitigation, and work plan for management of environmental media.

Retail Shopping Center – Former Dry Cleaners Facility – DTSC, Fremont, CA:
Conducted extensive site investigation activities to evaluate the magnitude and extent of chlorinated solvents identified in the vicinity of a former dry cleaners facility, including an evaluation of groundwater, soil, soil-gas and indoor vapors as a result of a chlorinated solvent plume. Project responsibilities consisted of direct support and interaction with client, client legal team and DTSC representatives to manage the closure process, including the preparation of work plans and environmental investigation reports, risk-based human health evaluation, and response actions.

Underground Storage Tank Assessment and Monitoring – West Los Angeles, CA:
Assisted property owner with the regulatory closure of former underground storage tank (UST) site located in West Los Angeles, California. The project scope included historical research of past site use and site characterization, including soil, groundwater and soil gas assessments, followed by groundwater monitoring until closure was achieved.

Automated Fuel Dispensing Facilities – Camp Pendleton, California:
Project scope included environmental and geotechnical investigations at six fueling existing/proposed facilities within Camp Pendleton, California. The project consisted of construction of new buildings, canopies, pavements, retaining walls, slopes, and installation of underground storage tanks (USTs), and other site facilities. Served as the environmental group leader.

Emerson College, Hollywood, California:
Conducted comprehensive investigation and assisted the client through enrolling and interacting with the LAFD regarding USTs found during construction activities. Provided construction management oversight to manage impacted soils and assisted the client in waste disposition, permitting and regulatory compliance interaction. A total of 45,000 cubic yards of soil was removed from the site and disposed at an off-site facility, prior to the construction of a mid-rise school complex. Support services allowed for significant savings in construction, on an expedited timeline in concert with the construction schedule.

Los Angeles Unified School District (LAUSD Sites):
Managed soil characterization for export/import soils for over nine Los Angeles Unified School District (LAUSD) sites. Prepared Sample Strategy Plans (SSP) for stockpiled and in-place soils, oversaw the sampling, and prepared soil certification reports under the supervision of a professional geologist for submittal to the LAUSD Office of Environmental Health.

Islam (Sami) R. Noaman, EIT (continued)

Newton Plastics, Newton, NJ:

Managed the removal of two 12,000-gallon (solvents & gasoline containing) USTs from a plastic products manufacturing facility as a part of transaction deal. Project tasks included, work plan preparation, regulatory officials interface, client contact/coordination, oversight of removal activities, and report preparation. No further action letter from NJDEP was obtained for the client. The property value was retained for the client with our consulting services.

Eagle Electric, Queens, NY:

Responsibilities were to manage the cleanup of former Coal storage rooms in basement of a landmark building in Queens, NY. The cleanup activities included, hauling of approximately 425 tons of Class N-1 Hazardous materials, managed and ensured safety of eight to twelve crew, handling of waste manifests, and coordination for transportation / disposal and client interface.

AROL Chemicals, Newark, NJ:

Managed Phase I and Phase II ESA of chemical manufacturing facility. Scope of Phase II ESA included, the removal of three 12,000-gallon USTs, excavation and disposal of impacted soils.

KeySpan Energy, NY:

Responsibilities include inspection and maintenance of client boilers and tanks systems. Objectives were to prevent scaling/rusting in the boiler systems resulting from the plant operations to maintain operations efficiency. Goals were achieved for the client by developing environmentally friendly chemical reagents (pH controlled) to mitigate the concerns at the plant, boilers maintenance issues were resolved and steady business was created for the company.

The HACH Company, OH:

Implementing unique techniques producing Ferrozine - Iron- reagent for determining trace levels of iron in chemical reagents and glycols. Ferrozine can also be used to analyze samples containing magnetite (black iron oxide) or ferrites.

KIWA of The Netherlands:

Research and development of new synthetic methods of alkali Ferrates including, Potassium, Sodium, and Barium ferrates, an environmentally friendly oxidative reagents used in wastewater treatment for municipal and industrial facilities.

Resumes

Fabio M. Minervini, PG

Environmental Department Manager



PROFESSIONAL EXPERIENCE

Mr. Minervini is a Geologist (P.G.) licensed to practice in the states of California and Oregon with over 20 years of experience in environmental services. He is familiar with all aspects of the environmental industry. During his career, he has managed hundreds of investigation and remediation projects involving soil, groundwater, and soil gas issues; vapor intrusion issues from migrating impacted soil gas; and dissolved plumes, at times commingled with plumes originating at other sources. Mr. Minervini has evaluated and interpreted assessment data, as well as designed groundwater monitoring programs. His experience includes proposing and evaluating the feasibility of various remedial technologies and subsequently managed the engineering design, installation, and operation and maintenance of a variety of remedial systems. In addition, he has provided litigation support related to hydrocarbon contamination at retail fuel stations.

Mr. Minervini has interacted with a variety of regulatory agencies in California in the form of maintaining projects in compliance with agency requirements, as well as proposed work in the voluntary assistance programs on behalf of his clients.

Mr. Minervini has also been responsible for the management of non-technical duties such as conducting job interviews and hiring decisions, as well as annual performance reviews and compensation adjustments, for a team of more than 10 employees.

EDUCATION
Bachelor of Science, Geology, University of California Los Angeles, 1991

REGISTRATIONS
Professional Geologist: California, No. 7861

Registered Geologist: Oregon, No. G2477

CERTIFICATIONS
40-Hour HAZWOPER

Petroleum Education Council, Certification No. 1001022451

Radiation Safety and Use of Nuclear Gauges, Certification No. 21966

AFFILIATIONS
Western States Petroleum Association (WSPA)

National Ground Water Association

Other Affiliations

PROJECT EXPERIENCE

Tesoro Refining and Marketing Company, LLC
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Managed the technical and financial aspects of the assessment and remediation of fuel retail sites in Orange, Riverside, and San Bernardino Counties, California (yearly revenue approximately $1.0 million).

Atlantic Richfield Company (ARCO)
Lead Scoper (and Lead Executer after September 2008) for the Orange County Portfolio (yearly revenue approximately $2.5 million). Managed technical and financial aspects associated with the assessment and remediation of leaking underground storage tank cases in Orange County, California.

Fabio M. Minervini, PG (continued)

ConocoPhillips
Managed site assessment and characterization, groundwater investigation and monitoring, and site remediation for service stations impacted by petroleum hydrocarbon releases in San Mateo County, California.

Atlantic Richfield Company (ARCO)
Managed the assessment of releases from underground storage tanks, the investigation and monitoring of dissolved hydrocarbon plumes, and the remediation of ARCO Stations in the California Desert/East Los Angeles Portfolio.

California Department of General Services
Managed assessment and monitoring of dissolved petroleum hydrocarbons from leaking underground storage tanks at various sites in Merced, Santa Barbara, Riverside, and San Diego Counties, California. Obtained case closure from the Riverside County Department of Environmental Health Services for the forest fire station in Temecula, California.

Kern County General Services Division
Managed ground water monitoring and remediation of the dissolved petroleum hydrocarbons plume originated from the leak of an underground tank storing gasoline at the fire station in Bear Valley Springs, California.

Orange County District Attorney
Managed the third party technical oversight project pertaining to the legal settlements between the Orange County District Attorney Office and Atlantic Richfield Company, and Shell Oil. The role of the third party consultant was to independently review the corrective action at ARCO and Shell gas stations in Orange County, California and provide recommendations, as warranted.

UST Fund Commingled Plume Site No. 00024
Managed under the California Underground Storage Tank Reimbursement Fund Account the site assessment, remediation, and monitoring of the petroleum hydrocarbon impacted soil and ground water at the commingled plume site consisting of ARCO Station 0087 and former Unocal Station 5865 in Hawthorne, California.

Dunn-Edwards Corporation
At a property in Escondido, California, formerly a Unocal service station, managed multiple phases of investigation and characterization of petroleum hydrocarbon impacted soil and ground water.

Dunn-Edwards Corporation
At a property leased in Long Beach, California, obtained a ”no further action” letter from the City of Long Beach Department of Environmental Health Services for the self-initiated site assessment related to the operation and maintenance of a 10,000-gallon underground storage tank storing paint thinner.

Fabio M. Minervini, PG (continued)

Boeing Realty Corporation
Conducted and reported site characterization activities related to the contamination by diesel fuel at the STEVS Unit on the Boeing plant in Huntington Beach, California.

Bradmore Realty Investment Company
Conducted Phase I Investigations for real estate transactions at sites in Los Angeles County, California.

ARCO Products Company
At various service stations in Los Angeles, Orange, and San Diego Counties, California, managed the site characterization, remediation, and groundwater monitoring programs. Managed the removal and replacement of underground storage tanks, and the complete demolition of service stations. Provided technical support in litigation related to petroleum hydrocarbon contamination at service stations in Orange County, California.

Various Responsible Parties
Reviewed files related to environmental issues at various agencies in Southern California.

San Diego Naval Station
Performed investigation and risk assessment study for petroleum hydrocarbon- and metals-impacted sites in the San Diego Harbor, California.

Marine Corps Air Base
Conducted pilot-scale ground water extraction test for remediation of the dissolved-phase trichloroethylene (TCE) and tetrachloroethylene (PCE) plumes at the base in Tustin, California.

Coto de Caza, Private Residential Community
Assisted in the fixation of lead project at the gun range in Coto de Caza, California.

Allied-Signal Chemical Plant
Conducted soil-gas investigation of halogenated volatile organics plume in vadose zone at the plant in El Segundo, California.

Shell/Parsons Reservoirs
Performed two phases (floor and berms) of mitigation by soil blending, remediation by thermal desorption, and closure with low permeability cap of crude oil reservoirs at the Tosco Refinery in Carson, California (former property of Shell Oil Company). Subcontracted by The Ralph M. Parsons Company for both environmental and geotechnical activities.

Reichhold Chemical Plant
Conducted soil-gas investigation of polychlorinated biphenyls (PCBs) in the vadose zone installing multiple completion wells with dual tube air percussion Stratex rig at the plant in Azusa, California.

Fabio M. Minervini, PG (continued)

Caltrans
Assisted in the storm water facilities retrofit evaluation for the Santa Monica Bay watershed in Los Angeles County, California.

Grayson Power Plant
Conducted HydroPunch investigation of trichloroethylene (TCE) Plume in vadose zone and ground water at the plant in Glendale, California.

Shell Offshore, Inc
Performed downhole pressure and temperature data collection, and reservoir interpretation analysis on production platform at Eugene Island Field, Block 331, Gulf of Mexico.

Conoco Oil, Inc.
Assisted in the drill stem test of multiple zones at the West Delta Field, Block 96, Gulf of Mexico.

Exxon, U.S.A.
Assisted in the perforation of multiple productive zones at the South Pass Field, Block 89, Gulf of Mexico.

Oryx Energy Company
Assisted in the flow test of the Upper Zone on the semi-submersible rig Ocean Voyager at the Mississippi Canyon Field, Block 445, Gulf of Mexico.

Leighton & Associates
Performed soil observation, sampling, and testing during mass grading and utilities installation as part of the San Joaquin Hills Transportation Corridor (Wood Canyon) Project conducted by the Mission Viejo Company in the Laguna Hills.

APPENDIX F
DESCRIPTION OF TERMS AND ACRONYMS

Description of Selected General Terms and Acronyms

Term/Acronym	Description
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms

Term/Acronym	Description
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

Description of Selected General Terms and Acronyms

Term/Acronym	Description
IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	picoCuries per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in picoCuries per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment. De minimis conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small Quantity Generator
SWF/LF	State and/or Tribal database of Solid Waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.

Description of Selected General Terms and Acronyms

Term/Acronym	Description
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water 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. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates “waters of the US,” also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.