Contact Filer Regarding Image Clarity

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702-279-4040
linda@bullenlaw.com

RECEIVED
PUBLIC UTILITIES COMMISSION
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January 7, 2015

VIA HAND DELIVERY

Ms. Breanne Potter
Assistant Commission Secretary
Public Utilities Commission of Nevada
9075 W. Diablo Drive, Suite 250
Las Vegas, Nevada 89148

Re: Application of Invenergy Solar Development, LLC for a Permit To Construct A Utility Facility Pursuant to the Utility Environmental Protection Act; Docket No. 14-09002

Dear Ms. Potter:

Enclosed for filing please find the Application of Invenergy Solar Development, LLC ("Invenergy") For A Permit To Construct A Utility Facility Pursuant To The Utility Environmental Protection Act ("UEPA"). The documents comprising the application are:

1. Application For A Permit To Construct A Utility Facility Pursuant To The Utility Environmental Protection Act; and

2. Exhibits A through I including the required Public Notice and Proof of Publication (Exhibits G and H) and Proof of Service (Exhibit I).

This UEPA process was commenced by Invenergy on September 3, 2014 with the filing of a Notice of an Application to a Federal Agency for a Permit to Construct a Utility Facility Pursuant to UEPA. On December 8, 2014, the U.S. Department of the Interior Bureau of Land Management issued its Environmental Assessment for the Harry Allen Solar Energy Center Project.

Invenergy respectfully requests that the Commission accept this Application under UEPA as complying with the applicable statutory and regulatory requirements.

If you have any questions about this filing, please do not hesitate to contact me directly at (702) 279-4040.

Best Regards,

Linda M. Bullen
Bullen Law, LLC
Attorney for Invenergy Solar Development, LLC

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

IN THE MATTER OF:	
Notice of an Application to a Federal Agency by Invenergy for a Permit to Construct a Utility Facility Pursuant to the Utility Environmental Protection Act	Docket No. 14-09002

APPLICATION OF INVENERGY SOLAR DEVELOPMENT, LLC FOR A PERMIT TO CONSTRUCT A UTILITY FACILITY PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT

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LIST OF EXHIBITS

A. Site Location Map
B. Regional Map
C. Legal Description of Proposed Facility
D. Facility Plan
E. Scaled Diagrams
F. Environmental Assessment
G. Public Notice
H. Proof of Publication
I. Proof of Service to Clark County Clerk, Nevada State Clearinghouse and Other Agencies

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

IN THE MATTER OF:	
Notice of an Application to a Federal Agency by Invenergy for a Permit to Construct a Utility Facility Pursuant to the Utility Environmental Protection Act	Docket No. 14-09002

APPLICATION OF INVENERGY SOLAR DEVELOPMENT, LLC FOR A PERMIT TO CONSTRUCT A UTILITY FACILITY PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT

A. INTRODUCTION

In accordance with NRS 704.870(2), applicant Invenergy Solar Development, LLC ("Invenergy" or the "Company"), hereby files with the Public Utilities Commission of Nevada (the "Commission") its Application ("Application") for a Permit to Construct a Utility Facility pursuant to the Utility Environmental Protection Act ("UEPA") (NRS 704.820 to 704.900 and NAC 703.415 to 703.427) for the Harry Allen Solar Energy Center Project (the "Proposed Facility"). Invenergy filed its Notice of an Application to a Federal Agency in this Docket on September 3, 2014, and provides the following information pursuant to NRS 704.870(2)(b) and NAC 703.423 in support of its Application.

B. GENERAL ALLEGATIONS

1. Invenergy is a subsidiary of Invenergy Solar Global LLC.

2. Invenergy was formed for the purpose of developing and constructing solar facilities throughout the United States.

3. Invenergy's principal place of business, mailing address and telephone number are: 2580 West Main Street, Littleton, Colorado, 80120; (303)328-8521.

4. All correspondence related to this Application should be sent to the undersigned counsel:

Linda M. Bullen
Bullen Law, LLC
9101 West Sahara Ave., Ste. 105-L6
Las Vegas, Nevada 89117
702-279-4040
linda@bullenlaw.com

C. LEGAL AUTHORITY

A thorough review and analysis of the environmental conditions associated with the Proposed Facility is required by the National Environmental Policy Act ("NEPA"), 42 U.S.C. §4321 *et seq*. An Environmental Assessment ("EA") was prepared for the Proposed Facility, led by the BLM with input from other agencies. The EA was issued on December 8, 2014.

UEPA establishes a two-step application procedure for facilities subject to Federal permitting and environmental review. Pursuant to NRS 704.870(2)(a), if a federal agency is required to conduct an environmental analysis of a proposed utility facility, the project proponent is required to file a Notice of the federal filing with the Commission. *See* NRS 704.870(2)(a)(1) and (2). Subsequently, the applicant is required to file an Application with the Commission pursuant to NRS 704.870(2)(b). Invenergy filed its Notice with the Commission on September 3, 2014.

This Application is filed pursuant to NRS 704.870(2)(b) for a permit to construct a solar facility where a federal agency has issued its final environmental evaluation related to the construction of the proposed utility facility. Invenergy requests that the Commission accept this Application as complying with the statutory and regulatory requirements set forth above and approve its request for a Permit to Construct the Proposed Facility pursuant to NRS 704.8905(1)(b).

D. ALLEGATIONS OF MATERIAL FACT

The Proposed Facility will be located on federal land managed by the BLM in Clark County, Nevada. *See* Exhibit A, Site Location Map. Invenergy is developing the Proposed Facility to produce renewable electrical power to meet the growing demand for such power in the Western United States and to satisfy state renewable portfolio standards.

E. RESPONSES TO REQUIRED DISCLOSURES

The information required by NAC 703.423 is provided below.

1. A description of the location of the proposed utility facility. (NAC 703.423(1))

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

The Proposed Facility will be located on federal land managed by the BLM in Clark County, Nevada, approximately 15 miles northeast of Las Vegas, within the BLM's Dry Lake Solar Energy Zone ("SEZ"). *See* Exhibit A, Site Location Map. A regional map showing the location of the Proposed Facility is attached as Exhibit B.

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

The legal description of the Proposed Facility is attached as Exhibit C.

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

A Facility Plan is attached as Exhibit D and scaled diagrams are attached as Exhibit E.

2. A general description of the proposed utility facility. (NAC 703.423(2))

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

The Proposed Facility is a 130 megawatt/ac ("MW/ac") photovoltaic ("PV") solar electric generating facility located on approximately 715 acres of BLM-administered federal land located within Parcel One of the Dry Lake SEZ. Project components include on-site, off-site and temporary facilities necessary to construct the Proposed Facility. Major on-site facilities include solar array blocks of solar PV modules, a substation and operation and maintenance facilities. Off-site facilities include a 3,500 foot (0.66-mile), 230 kilovolt ("kV") generation tie (gen-tie") transmission line, an access road and electric distribution and communication lines. Temporary facilities, which will be removed at the conclusion of construction, include mobilization, laydown and construction areas. Power produced by the Proposed Facility will be conveyed to the Nevada Power bulk transmission system via the gen-tie line, which will interconnect the Proposed Facility to NV Energy's Harry Allen Substation.

(b) The natural resources that will be used during the construction and operation of the proposed utility facility.

The Company anticipates minimal use of natural resources during construction and operation of the Proposed Facility. Water will be utilized for dust control. The only other natural resources the Company anticipates using are those incorporated into construction materials (e.g., steel and concrete).

(c) Layout diagrams of the proposed utility facility and its associated equipment.

Layout diagrams of the Proposed Facility are attached as Exhibit D.

(d) Scaled diagrams of the structures at the proposed utility facility.

Scaled diagrams of the Proposed Facility are attached as Exhibit E.

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

The Proposed Facility is associated with an electric generating plant which uses renewable energy as its primary source of energy to generate electricity.

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

The study of the environmental impact of the Proposed Facility is contained within the EA of the Proposed Facility (*see* Exhibit F), which was prepared by the BLM.

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

The selected location is best suited for the Proposed Facility because it is proximate to the Harry Allen Substation and because the land was designated by the BLM for solar development as part of the SEZ.

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

A summary of this Application has appeared in a newspaper published and distributed in the area where the Proposed Facility is planned pursuant to NRS 704.870(4)(b) and NAC

703.423(5). *See* Exhibits G and H. A copy of the Application has been filed with the clerk of each local government in the area in which the Proposed Facility is to be located pursuant to NRS 704.870(4)(a). *See* Exhibit I.

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

A copy of the Application has been submitted to the Nevada Department of Administration's State Clearinghouse. *See* Exhibit I.

7. An explanation of the nature of the probable effect on the environment. (NAC 703.423(7))

(a) A reference to any studies described in subsection 3, if applicable.

Detailed environmental analysis of the Proposed Facility is contained in the EA. *See* Exhibit F. This document analyzes the direct, indirect and cumulative impacts from constructing and operating the Proposed Facility.

(b) An environmental statement that includes:

(1) The name, qualifications, professions and contact information of each person with primary responsibility for the preparation of the environmental statement.

Preparers and reviewers of the EA were:

BLM Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130
(702) 515-5000

National Park Service
1849 C Street NW
Washington, DC 20240
(202) 208-3818

U.S. Environmental Protection Agency
Region 9 Office
75 Hawthorne Street
San Francisco, CA 94105

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

A list of preparers is included at Sections 4-2 and 4.4 of the EA. *See* Exhibit F hereto.

(3) A bibliography of materials used in the preparation of the environmental statement.

A bibliography of reference materials used in preparation of the EA is contained in the EA at Section 7. *See* Exhibit F hereto.

(4) A description of:

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

See Chapter 3 of the EA ("Affected Environment and Environmental Consequences"), Exhibit F hereto.

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

See Chapter 3 of the EA ("Affected Environment and Environmental Consequences"), Exhibit F hereto.

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

See Chapter 3 of the EA ("Affected Environment and Environmental Consequences"), Exhibit F hereto.

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

Pursuant to NRS 704.890(1)(b), the Proposed Facility is exempt from NAC 703.423(8).

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

The Proposed Facility will not have significant unmitigated adverse impacts on the environment.

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

(a) The state of available technology.

The project will be designed, constructed and operated to meet all applicable requirements to have minimum adverse effect on the environment.

(b) The nature of various alternatives.

The selected alternative represents the minimum adverse effect on the environment that is economically viable.

(c) The economics of various alternatives.

The selected alternative represents the minimum adverse effect on the environment that is economically viable.

11. An explanation of how the location of the proposed utility facility conforms to applicable state and local laws and regulations. (NAC 703.423 (11))

(a) All permits, licenses and approvals the applicant has obtained, including copies thereof.

The EA for the Proposed Facility was issued on December 8, 2014. The remaining permits detailed below are projected to be obtained on the date indicated.

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

Permit/Authorization	Approving Agency	Date Obtained or Anticipated
Environmental Assessment	U.S. Dept. of the Interior; Bureau of Land Management	December 8, 2014
Right-of-Way Grant	U.S. Dept. of the Interior; Bureau of Land Management	First Quarter 2015
Decision Record	U.S. Dept. of the Interior; Bureau of Land Management	First Quarter 2015
Notice to Proceed	U.S. Dept. of the Interior; Bureau of Land Management	Second Quarter 2015
National Historic Preservation Act Section 106 Finding of Eligibility	U.S. Dept. of the Interior; Bureau of Land Management; Nevada State Historic Preservation Office	First Quarter 2015
Endangered Species Act Section 7 Biological Opinion/ Incidental Take Permit	U.S. Dept. of the Interior; Fish & Wildlife Service	First Quarter 2015
Clean Water Act Section 404 Determination	U.S. Army Corps of Engineers	First Quarter 2015

Special Purpose Permit	Nevada Department of Wildlife	First Quarter 2015
NPDES General Construction Stormwater Permit	Nevada Division of Environmental Protection	First Quarter 2015
Temporary Permit for Working in Waterways	Nevada Division of Environmental Protection	First Quarter 2015
Groundwater Discharge Permit	Nevada Division of Environmental Protection	First Quarter 2015
Hazardous Materials Storage Permit	Nevada State Fire Marshall	First Quarter 2015
Dust Control Permit	Clark County Department of Air Quality	First Quarter 2015
Special Use Permit	Clark County Department of Comprehensive Planning	First Quarter 2015
Grading Permit	Clark County Department of Development Services	First Quarter 2015
Building Permit	Clark County Department of Building	First Quarter 2015
Drainage Study Approval	Clark County Department of Public Works	First Quarter 2015

12. Explanation of how the proposed utility facility will serve the public interest. (NAC 703.423(12))

(a) The economic benefits that the proposed utility facility will bring to the applicant and this State.

It is estimated that construction of the Proposed Facility will occur over a period of approximately 18 months. The Proposed Facility will create approximately 350 construction jobs and 6 full-time permanent jobs.

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

The Proposed Facility will result in a net reduction in greenhouse gas emissions by displacement of electrical energy produced by fossil fuels.

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

The Proposed Facility will result in improved air quality by displacement of electrical energy produced from fossil fuels resulting in an improvement to human health.

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

The Proposed Facility will result in improved air quality and a reduction in greenhouse gases are interstate benefits of the project.

F. CONCLUSION AND REQUEST FOR RELIEF

Invenergy respectfully requests that the Commission proceed in the manner required by law and, in accordance with NAC 703.535(2)(d), issue an order that:

1. Grants a Permit to Construct the Proposed Facility, as described herein;

2. Grants such conditions and modifications that may allow for the issuance of the UEPA permit to construct or a compliance order with the condition that the Company may file any outstanding required permits, licenses or approvals with the Commission prior to commencing construction of the Proposed Facility pursuant to NRS 704.890;

3. Grants such deviations from the Commission's regulations as may be in the public interest; and

4. Grants Invenergy such other and further relief as the Commission may find reasonable and appropriate under the circumstances.

Respectfully submitted on January 7, 2015.

Invenergy Solar Development, LLC

By: Linda M. Bullen

Linda M. Bullen
Bullen Law, LLC
9101 W. Sahara Ave., Ste. 101-L6
Las Vegas, NV 89117
Phone: (702) 279-4040
linda@bullenlaw.com
Attorney for Invenergy Solar Development, LLC

Application of Invenergy Solar Development, LLC
for a Permit to Construct a Utility Facility Pursuant to the
Utility Environmental Protection Act
Docket No. 14-09002

LIST OF ENCLOSURES

Application Of Invenergy Solar Development, LLC For A Permit To Construct A Utility Facility Pursuant To The Utility Environmental Protection Act

This application includes the following:

A) Public Utilities Commission of Nevada Draft Notice;

B) UEPA Application, comprised of the following:

1) Table of Contents
2) List of Exhibits
3) Introduction
4) General Allegations
5) Legal Authority
6) Allegations of Material Fact
7) Responses to Required Disclosures
8) General Description of the Location of the Proposed Facility
9) General Description of the Proposed Facility
10) Studies of Environmental Impact
11) Reasonable Alternative Locations
12) Public Notice
13) Proof of Service
14) Explanation of Probable Effect on Environment
15) Ensuring Reliable Utility Service to Customers of State
16) Balancing Adverse Effects on Environment
17) Minimum Adverse Effect on Environment
18) Conformance with Law and Regulation
19) Serving the Public Interest
20) Conclusion and Request for Relief
21) Exhibits A - I

Application of Invenergy Solar Development, LLC
for a Permit to Construct a Utility Facility Pursuant to the
Utility Environmental Protection Act
Docket No. 14-09002

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17) Minimum Adverse Effect on Environment
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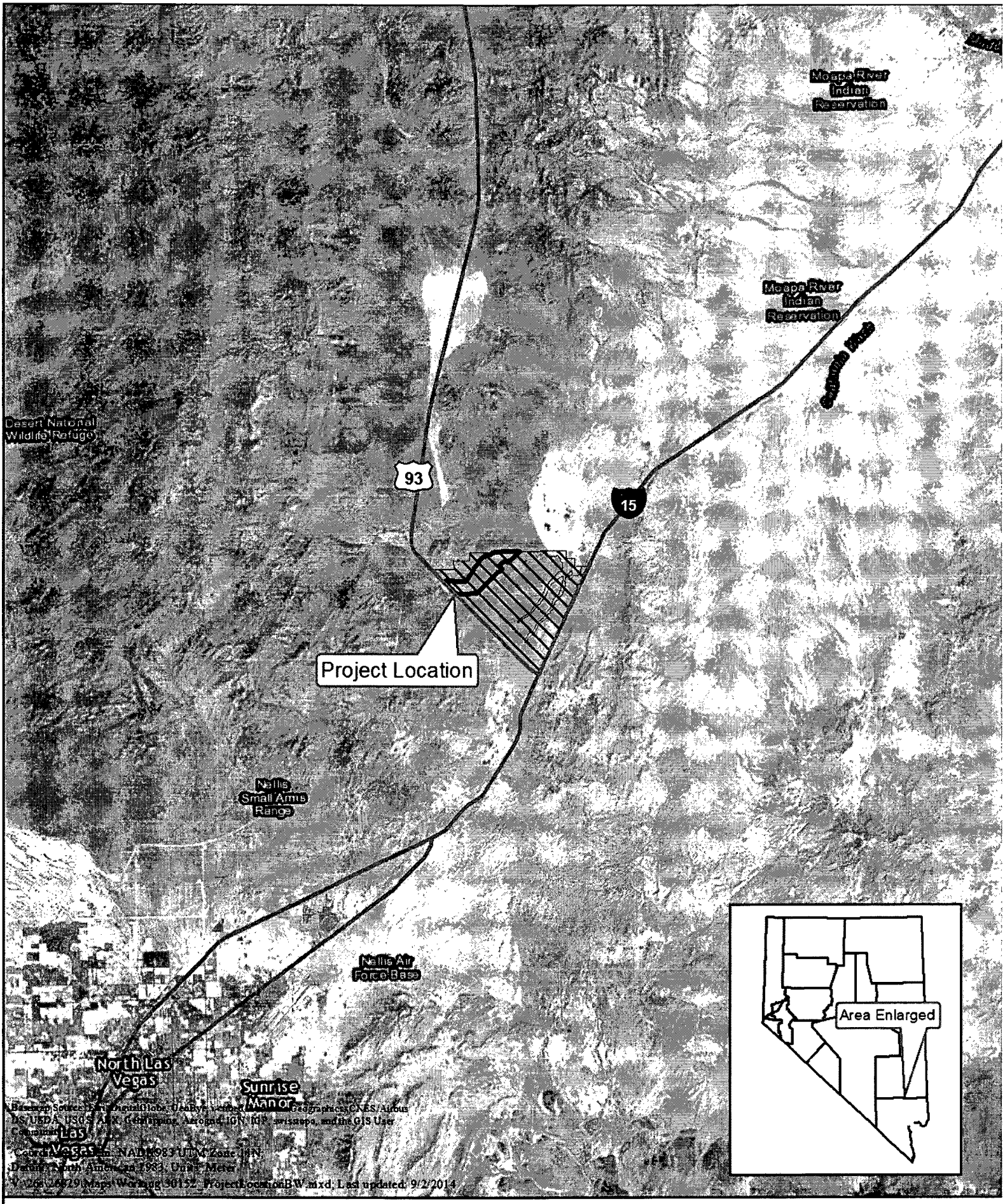
19) Serving the Public Interest
20) Conclusion and Request for Relief
21) Exhibits A - I

EXHIBIT A



Project Area

Dry Lake SEZ

0 5 km

0 5 mi

N

SWCA
ENVIRONMENTAL CONSULTANTS

EXHIBIT B

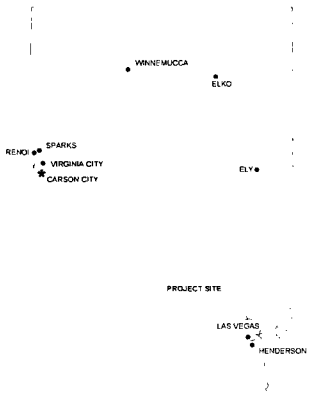
HARRY ALLEN ENERGY CENTER

PLAN OF DEVELOPMENT (POD) IMPROVEMENT PLANS

GREAT BASIN WAY, CLARK COUNTY, NV

SOLAR ELECTRIC SYSTEM PROJECT - 134 MW AC

PROJECT LOCATION:



PROJECT SCOPE:

SOLAR ELECTRIC SYSTEM

THE PROJECT ENTAILS THE INSTALLATION OF A SOLAR PHOTOVOLTAIC SYSTEM. THE SYSTEM WILL BE A NET ELECTRICITY EXPORTER TO THE UTILITY GRID

THE INSTALLATION CONSISTS OF NEW GROUND MOUNTED SINGLE AXIS TRACKER SYSTEM. THE SYSTEM WILL ALSO INCLUDE SEVERAL INVERTERS. THE PROPOSED INVERTERS ARE UL1741 LISTED FOR POWER QUALITY AND SAFETY

THE SYSTEM WILL BE INTERCONNECTED TO AND WILL BE OPERATED IN PARALLEL WITH THE ENERGY PROVIDER ELECTRIC GRID PER THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE

PROJECT TEAM:

DEVELOPER
INVENERGY
ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, IL 60606
CONTACT: BO ALLEY
TEL: (303) 328-8521
BALLEY@INVENERGY.COM

DESIGN ENGINEERING FIRM
BLUE OAK ENERGY
1560 DREW AVENUE
DAVIS, CA 95618
CONTACT: BEN HUNTER
TEL: (530) 747 2026

DRAWING INDEX:

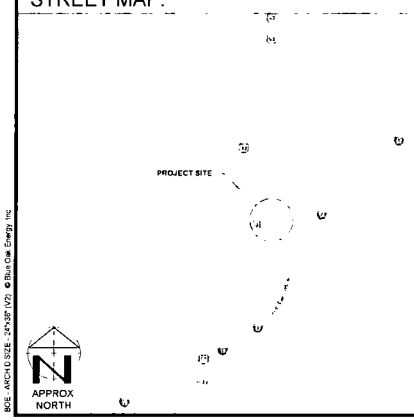
DWG NO	TITLE	REV NO
WG-001	TITLE SHEET	
C-101	EXISTING SITE PLAN	
C-102	GRADING AND DRAINAGE PLAN	
C-401	SITE DETAILS	
W-111	ARRAY PLAN	
W-112	TRANSMISSION LINE PLAN	

PERMITTING/PLANNING NOTES:

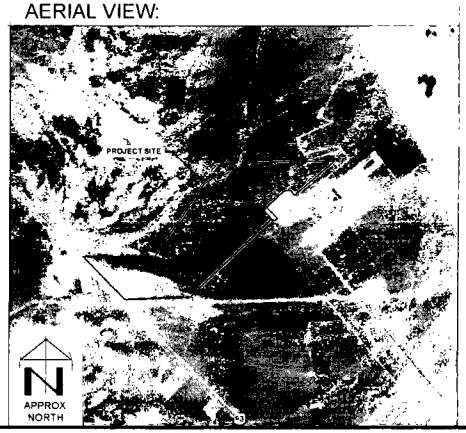
1. THIS PV SYSTEM INSTALLATION IS SUBJECT TO INSPECTION BY THE AUTHORITY HAVING JURISDICTION, INVENERGY, BLUE OAK ENERGY AND MULTIPLE OTHER STAKEHOLDERS IN THIS PROJECT
2. THIS PROJECT SHALL CONFORM TO THE FOLLOWING CODE VERSIONS
   - 2012 INTERNATIONAL BUILDING CODE
   - 2011 NATIONAL ELECTRIC CODE

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
- ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES

STREET MAP:



AERIAL VIEW:



BLUE OAK ENERGY
1560 Drew Avenue
Davis, CA 95618
www.blueoakenergy.com
530 747 2026

CLIENT
Invenergy
ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, IL 60606

PRELIMINARY
NOT FOR CONSTRUCTION

INTERNAL USE ONLY
DRAWN: CK
CHKD: BH
P.M.: BH
PROJECT #:
INVS 1.02
FILE NAME:
DFT LAKE WG-001.dwg
DATE: 6/1 PRINTED: 06/20/2014
DESCRIPTION

PROJECT
HARRY ALLEN SOLAR ENERGY CENTER
CLARK COUNTY, NV
DRAWING TITLE
TITLE SHEET
DRAWING NO
WG-001

BOE - ARCH D SIZE - 24"x36" (V2) © Blue Oak Energy, Inc.

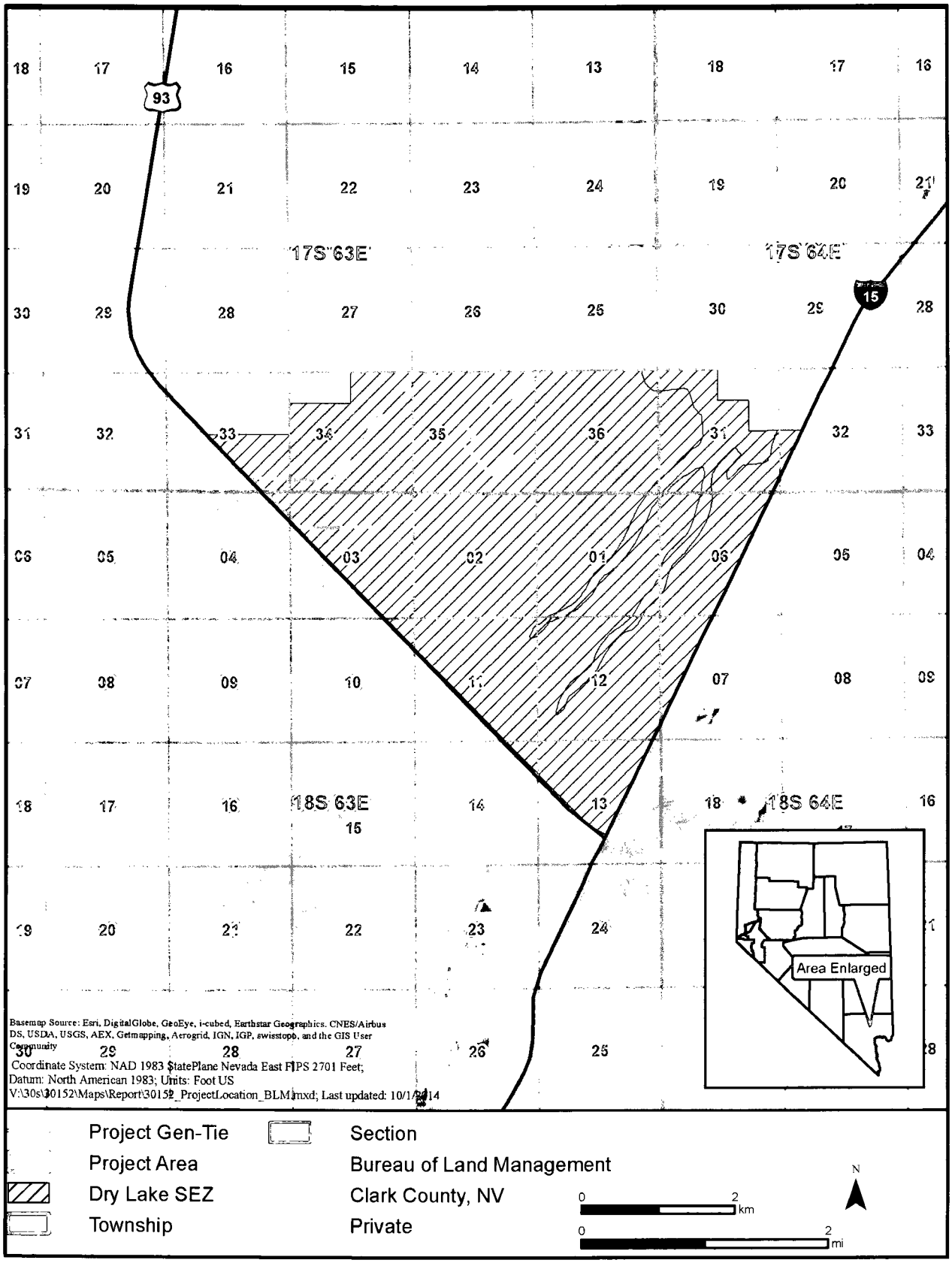

93
15
17S 63E
17S 64E
18S 63E
18S 64E
Area Enlarged
Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Coordinate System: NAD 1983 StatePlane Nevada East FIPS 2701 Feet;
Datum: North American 1983; Units: Foot US
V:\30s\30152\Maps\Report\30152_ProjectLocation_BLM.mxd; Last updated: 10/1/2014
Project Gen-Tie
Project Area
Dry Lake SEZ
Township
Section
Bureau of Land Management
Clark County, NV
Private
0
2
km
0
2
mi
N

EXHIBIT C

LEGAL DESCRIPTION

THIS DESCRIPTION REPRESENTS DRY LAKE SOLAR ENERGY ZONE, AREA ONE, LYING WITHIN SECTIONS 33, 34, 35 AND 36, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN AND WITHIN SECTIONS 3 AND 4, TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA.

ALIQUOT DESCRIPTION

TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN:

SECTION 33: GOVERNMENT LOT 13 AND 14
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING WITHIN LAND UTILIZED AS TORTOISE HABITAT CONNECTIVITY AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR" MAP DATED FEBRUARY 11, 2014;

SECTION 34: GOVERNMENT LOTS 1, 2, 3 AND 4, NE 1/4, N1/2 S1/2
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING WITHIN LAND UTILIZED AS TORTOISE HABITAT CONNECTIVITY AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR" MAP DATED FEBRUARY 11, 2014 AND FURTHER EXCEPTING THAT PORTION OF LAND LYING SOUTHEASTERLY OF THE NORTHWESTERLY RIGHT-OF-WAY FOR TRANSMISSION LINE, BLM NEVADA CASE FILE N 75607;

SECTION 35: GOVERNMENT LOT 1, NE 1/4, N 1/2 SW 1/4, NW 1/4
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING WITHIN LAND UTILIZED AS TORTOISE HABITAT CONNECTIVITY AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR" MAP DATED FEBRUARY 11, 2014 AND FURTHER EXCEPTING THOSE PORTIONS OF LAND LYING SOUTHEASTERLY OF THE NORTHWESTERLY RIGHT-OF-WAY LINES OF BLM NEVADA CASE FILES N 74510, N 75025 AND N 75607;

SECTION 36: NW 1/4 NW 1/4
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING SOUTHEASTERLY OF THE NORTHWESTERLY RIGHT-OF-WAY LINE OF BLM NEVADA CASE FILE N 74510;

TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN:

SECTION 3: GOVERNMENT LOTS 1, 2, 3, 5, 7 AND 8, S1/2 NE1/4
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING SOUTHEASTERLY AND SOUTHERLY OF THE NORTHWESTERLY AND NORTHERLY RIGHT-OF-WAY LINES OF BLM NEVADA CASE FILES N 75607 AND FURTHER EXCEPTING THOSE PORTIONS OF LAND LYING SOUTHWESTERLY OF THE NORTHEASTERLY RIGHT-OF-WAY LINE OF BLM NEVADA CASE NEV 60522;

SECTION 4: GOVERNMENT LOT 5
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING SOUTHWESTERLY OF THE NORTHEASTERLY RIGHT-OF-WAY LINE OF BLM NEVADA CASE NEV 60522.

METES AND BOUNDS DESCRIPTION

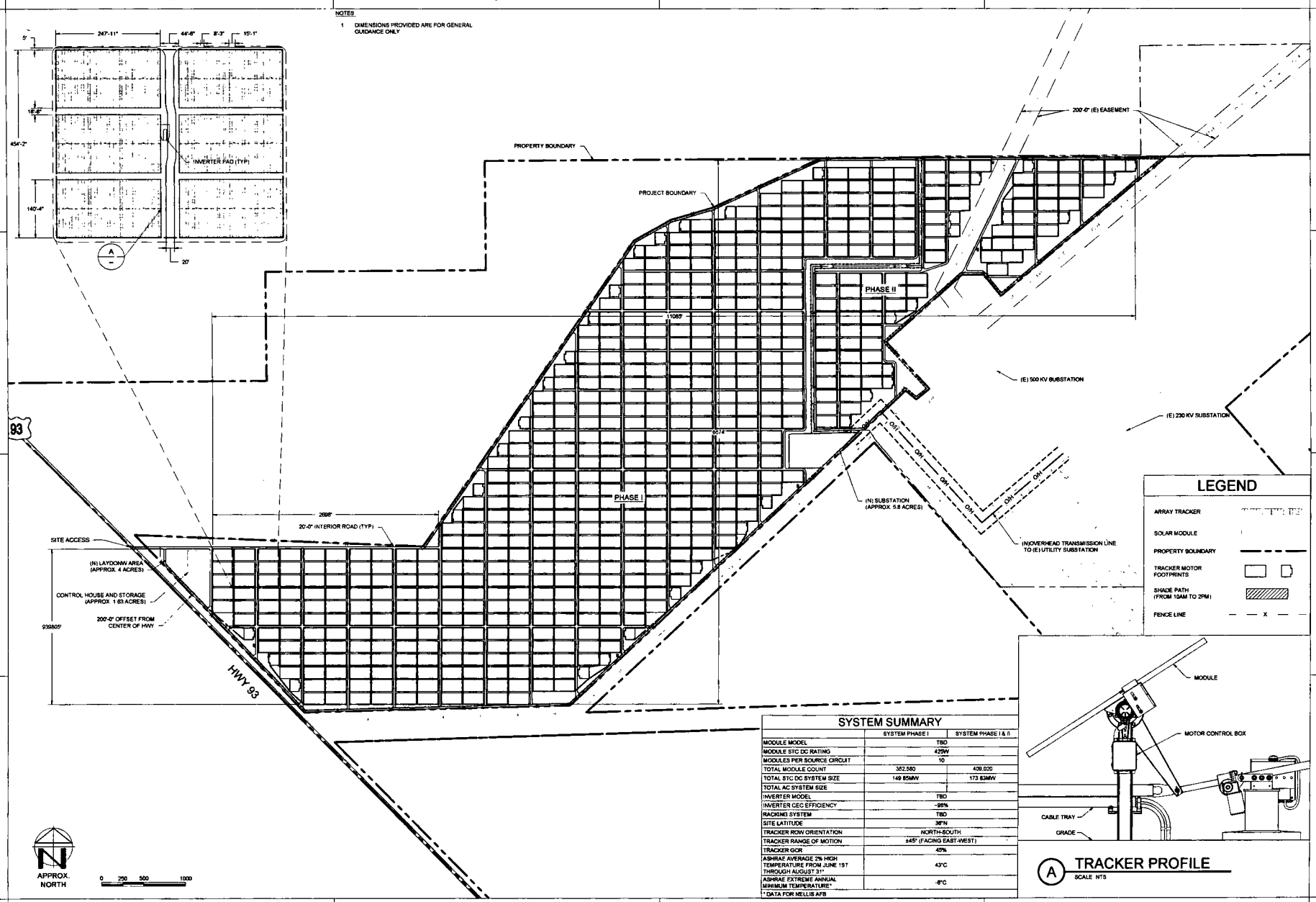
BEGINNING AT THE SECTION CORNER, COMMON TO SECTIONS 25, 26, 35 AND 36, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA THENCE WITH THE NORTH LINE OF SECTION 36 NORTH 89°33'53" EAST, 326.18 FEET TO THE NORTHWESTERLY RIGHT-OF-WAY LINE OF A 200 FOOT WIDE RIGHT-OF-WAY, GRANTED TO NEVADA POWER COMPANY, SERIAL NUMBER N 74510, THENCE WITH SAID NORTHWESTERLY LINE SOUTH 49°58'23" WEST, 2669.51 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF A RIGHT-OF-WAY GRANTED TO NEVADA POWER COMPANY, COMMONLY KNOWN AS THE HARRY ALLEN SWITCHYARD, SERIAL NUMBER N 75025, THENCE WITH SAID RIGHT-OF WAY, THE FOLLOWING THREE (3) COURSES, 1) NORTH 39°47'58" WEST, 495.51 FEET, 2) THENCE SOUTH 50°02'20" WEST, 1400.31 FEET, 3) THENCE SOUTH 39°47'06" EAST, 711.48 FEET TO THE NORTHWESTERLY RIGHT-OF-WAY LINE OF A 150 FOOT WIDE RIGHT-OF-WAY, GRANTED TO NEVADA POWER COMPANY, SERIAL NUMBER N 75607, THENCE WITH SAID RIGHT-OF WAY, THE FOLLOWING FOUR (4) COURSES, 1) SOUTH 47°45'01" WEST, 3524.38 FEET, 2) SOUTH 46°33'06" WEST, 2198.07 FEET, 3) THENCE SOUTH 88°11'07" WEST, 2836.81 FEET, 4) THENCE SOUTH 89°54'08" WEST, 189.85 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF A 400 FOOT WIDE RIGHT-OF-WAY, GRANTED TO NDOT, SERIAL NUMBER NEV 60522, THENCE WITH SAID RIGHT-OF-WAY LINE, NORTH 44°31'07" WEST, 3070.45 FEET, THENCE DEPARTING SAID RIGHT-OF-WAY LINE AND WITH THE BORDER OF THE TORTOISE HABITAT CONNECTIVITY AREA, AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR", MAP DATED FEBRUARY 11, 2014 THE FOLLOWING FOURTEEN (14) COURSES, 1) SOUTH 87°07'03" EAST, 3390.40 FEET, 2) THENCE NORTH 34°45'56" EAST, 4762.42 FEET, 3) THENCE NORTH 63°50'02" EAST, 211.00 FEET, 4) THENCE NORTH 69°03'18" EAST, 205.98 FEET, 5) THENCE NORTH 72°31'02" EAST, 373.00 FEET, 6) THENCE NORTH 66°40'02" EAST, 94.00 FEET, 7) THENCE NORTH 63°50'02" EAST, 77.00 FEET, 8) THENCE NORTH 61°30'02" EAST, 170.00 FEET, 9) THENCE NORTH 64°20'02" EAST, 53.00 FEET, 10) THENCE NORTH 68°45'02" EAST, 143.00 FEET, 11) THENCE NORTH 66°50'02" EAST, 312.00 FEET, 12) THENCE NORTH 65°50'02" EAST, 117.00 FEET, 13) THENCE NORTH 67°40'02" EAST, 261.00 FEET, 14) THENCE NORTH 65°40'02" EAST, 38.82 FEET TO THE NORTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA, THENCE WITH SAID NORTH LINE NORTH 89°35'22" EAST, 1399.76 FEET THE NORTH QUARTER CORNER OF SAID SECTION 35, THENCE WITH THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SAID SECTION 35 NORTH 89°35'53" EAST, 2640.70 FEET TO THE **POINT OF BEGINNING**.

CONTAINING 714.99 ACRES, MORE OR LESS.

EXHIBIT D

NOTES:

1. DIMENSIONS PROVIDED ARE FOR GENERAL GUIDANCE ONLY



LEGEND

- ARRAY TRACKER
- SOLAR MODULE
- PROPERTY BOUNDARY
- TRACKER MOTOR FOOTPRINTS
- SHADE PATH (FROM 10AM TO 2PM)
- FENCE LINE

SYSTEM SUMMARY

	SYSTEM PHASE I	SYSTEM PHASE I & II
MODULE MODEL	TBD	
MODULE STC DC RATING	425W	
MODULES PER SOURCE CIRCUIT	10	
TOTAL MODULE COUNT	352,580	409,020
TOTAL STC DC SYSTEM SIZE	149.85MW	173.83MW
TOTAL AC SYSTEM SIZE		
INVERTER MODEL	TBD	
INVERTER CEC EFFICIENCY	~98%	
RACKING SYSTEM	TBD	
SITE LATITUDE	36°N	
TRACKER ROW ORIENTATION	NORTH-SOUTH	
TRACKER RANGE OF MOTION	±45° (FACING EAST-WEST)	
TRACKER GCR	45%	
ASHRAE AVERAGE 2% HIGH TEMPERATURE FROM JUNE 1ST THROUGH AUGUST 31*	43°C	
ASHRAE EXTREME ANNUAL MINIMUM TEMPERATURE*	-8°C	

* DATA FOR NELLIS AFB

A TRACKER PROFILE
SCALE NTS

BLUE OAK ENERGY
1560 Drew Avenue
Davis, CA 95618
www.blueoakenergy.com
530.747.2025

CLIENT: Invenergy

ONE SOUTH WACKER DRIVE SUITE 1800
CHICAGO, IL 60606

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DRAWN:	CCK	
CHKD:	EPH	
P.A.L.	EPH	
PROJECT #		
WAS: L-102		
FILE NAME:	DRY LAKE-W-111 -SUMP.dwg	
DATE:	08/22/2014	
BY:	PRINTED:	

DESCRIPTION

PROJECT: HARRY ALLEN SOLAR ENERGY CENTER
CLARK COUNTY, NV

DRAWING TITLE: ARRAY PLAN

DRAWING NO. W-111

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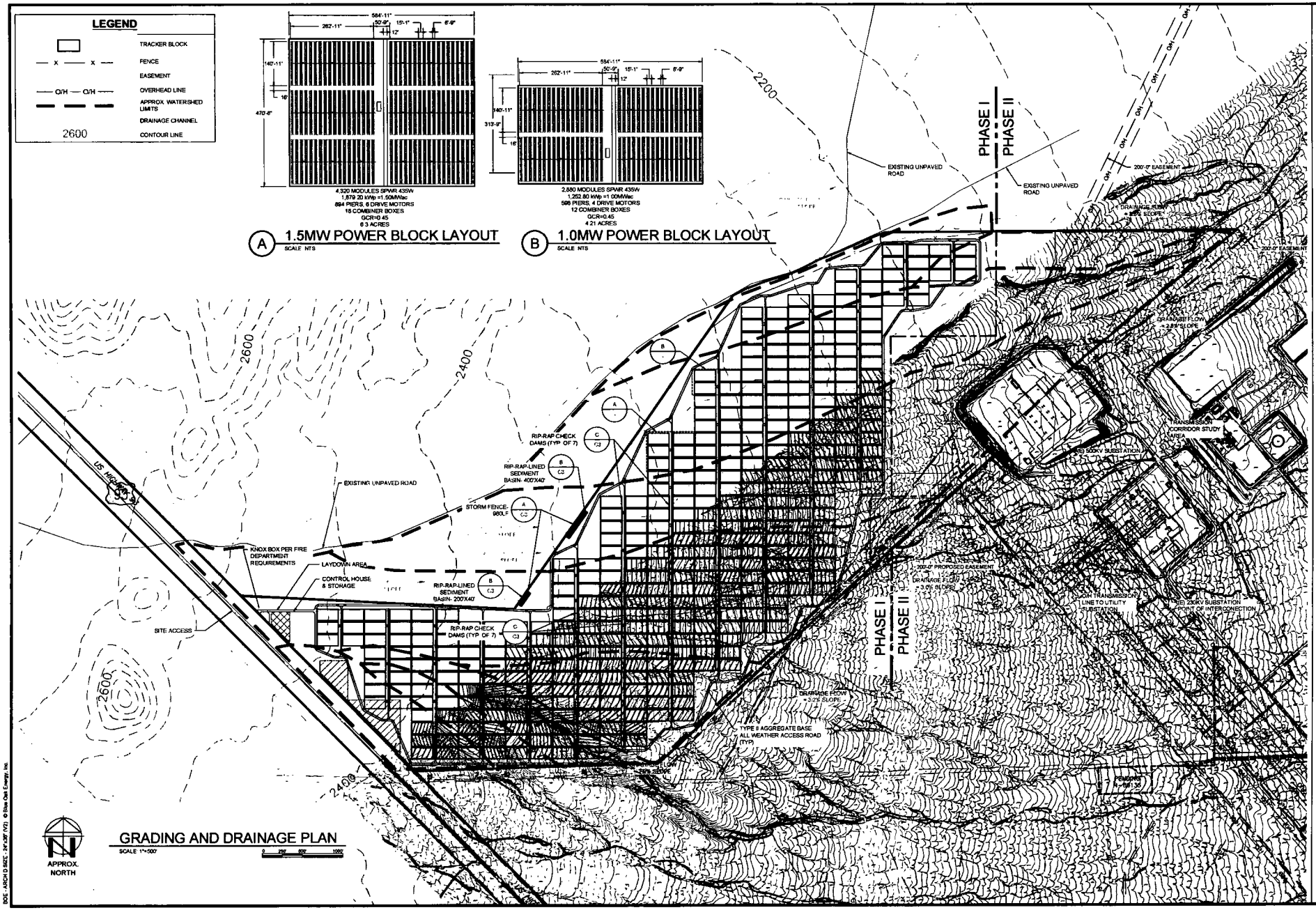
BOE - ARCH D SIZE - 24"x36" (V2) © Blue Oak Energy, Inc.



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www.blueoakenergy.com
530.747.2025

CLIENT:
Invenergy
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CHK'D: XXX
P.M.: XXX
PROJECT #: NVA-1-0.5
FILE NAME: 6p-0-1000dwg

DATE	BY	DESCRIPTION
10/31/2014		

PROJECT: HARRY ALLEN SOLAR ENERGY CENTER
CLARK COUNTY, NV

DRAWING TITLE: GRADING AND DRAINAGE PLAN - 101.5MW

DRAWING NO. C2

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GRADING AND DRAINAGE

SITE ACREAGE (INSIDE PERIMETER FENCE)	
PHASE I (WEST)	584 ACRES
PHASE II (EAST)	122 ACRES
SITE ROAD WAY	
TOTAL ROAD LENGTH (PHASE I)	80,000 LF
TOTAL ROAD LENGTH (PHASE II)	21,000 LF

LEGEND

POWER BLOCK

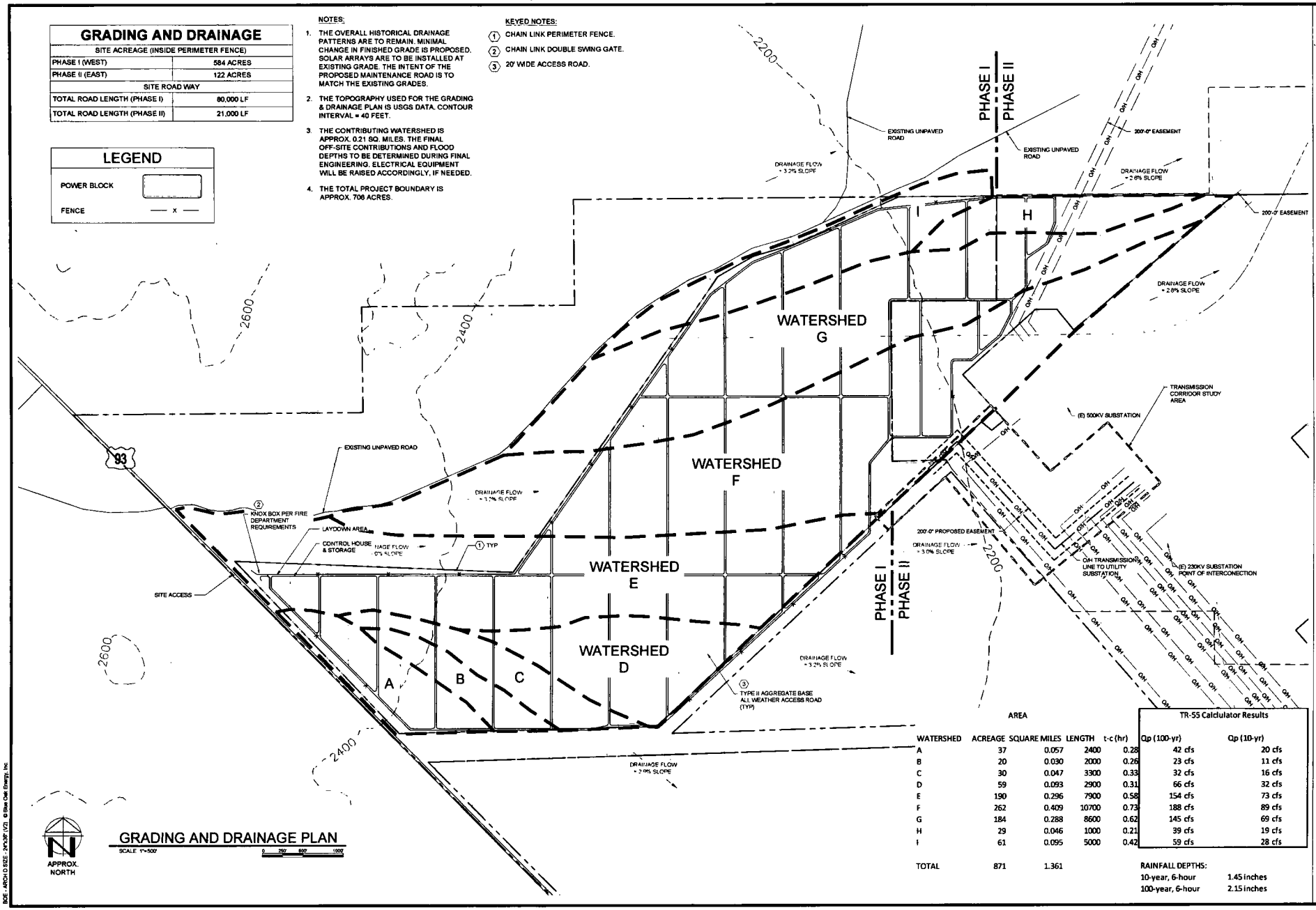
FENCE — x —

NOTES:

1. THE OVERALL HISTORICAL DRAINAGE PATTERNS ARE TO REMAIN. MINIMAL CHANGE IN FINISHED GRADE IS PROPOSED. SOLAR ARRAYS ARE TO BE INSTALLED AT EXISTING GRADE. THE INTENT OF THE PROPOSED MAINTENANCE ROAD IS TO MATCH THE EXISTING GRADES.
2. THE TOPOGRAPHY USED FOR THE GRADING & DRAINAGE PLAN IS USGS DATA. CONTOUR INTERVAL = 40 FEET.
3. THE CONTRIBUTING WATERSHED IS APPROX. 0.21 SQ. MILES. THE FINAL OFF-SITE CONTRIBUTIONS AND FLOOD DEPTHS TO BE DETERMINED DURING FINAL ENGINEERING. ELECTRICAL EQUIPMENT WILL BE RAISED ACCORDINGLY, IF NEEDED.
4. THE TOTAL PROJECT BOUNDARY IS APPROX. 706 ACRES.

KEYED NOTES:

1. CHAIN LINK PERIMETER FENCE.
2. CHAIN LINK DOUBLE SWING GATE.
3. 20' WIDE ACCESS ROAD.



GRADING AND DRAINAGE PLAN

SCALE 1"=500'

0 250' 500' 1000'

AREA					TR-55 Calculator Results	
WATERSHED	ACREAGE	SQUARE MILES	LENGTH	t-c (hr)	Qp (100-yr)	Qp (10-yr)
A	37	0.057	2400	0.28	42 cfs	20 cfs
B	20	0.030	2000	0.26	23 cfs	11 cfs
C	30	0.047	3300	0.33	32 cfs	16 cfs
D	59	0.093	2900	0.31	66 cfs	32 cfs
E	190	0.296	7900	0.58	154 cfs	73 cfs
F	262	0.409	10700	0.73	188 cfs	89 cfs
G	184	0.288	8600	0.62	145 cfs	69 cfs
H	29	0.046	1000	0.21	39 cfs	19 cfs
I	61	0.095	5000	0.42	59 cfs	28 cfs
TOTAL	871	1.361				

RAINFALL DEPTHS:

10-year, 6-hour	1.45 inches
100-year, 6-hour	2.15 inches

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1540 Drew Avenue
Davis, CA 95618
www.blueoakenergy.com
530.747.2026

CLIENT: Invenergy

ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, IL 60606

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DRAWN:	CZS
CHKD:	DSH
P.M.:	DSH
PROJECT #:	
DWG.11.dwg	
FILE NAME:	
DRY LAKES-C-102.dwg	
DATE: 06/23/2014	
BY:	
DESCRIPTION	

PROJECT: HARRY ALLEN SOLAR ENERGY CENTER

CLARK COUNTY, NV

DRAWING TITLE: GRADING AND DRAINAGE PLAN

DRAWING NO. C-102

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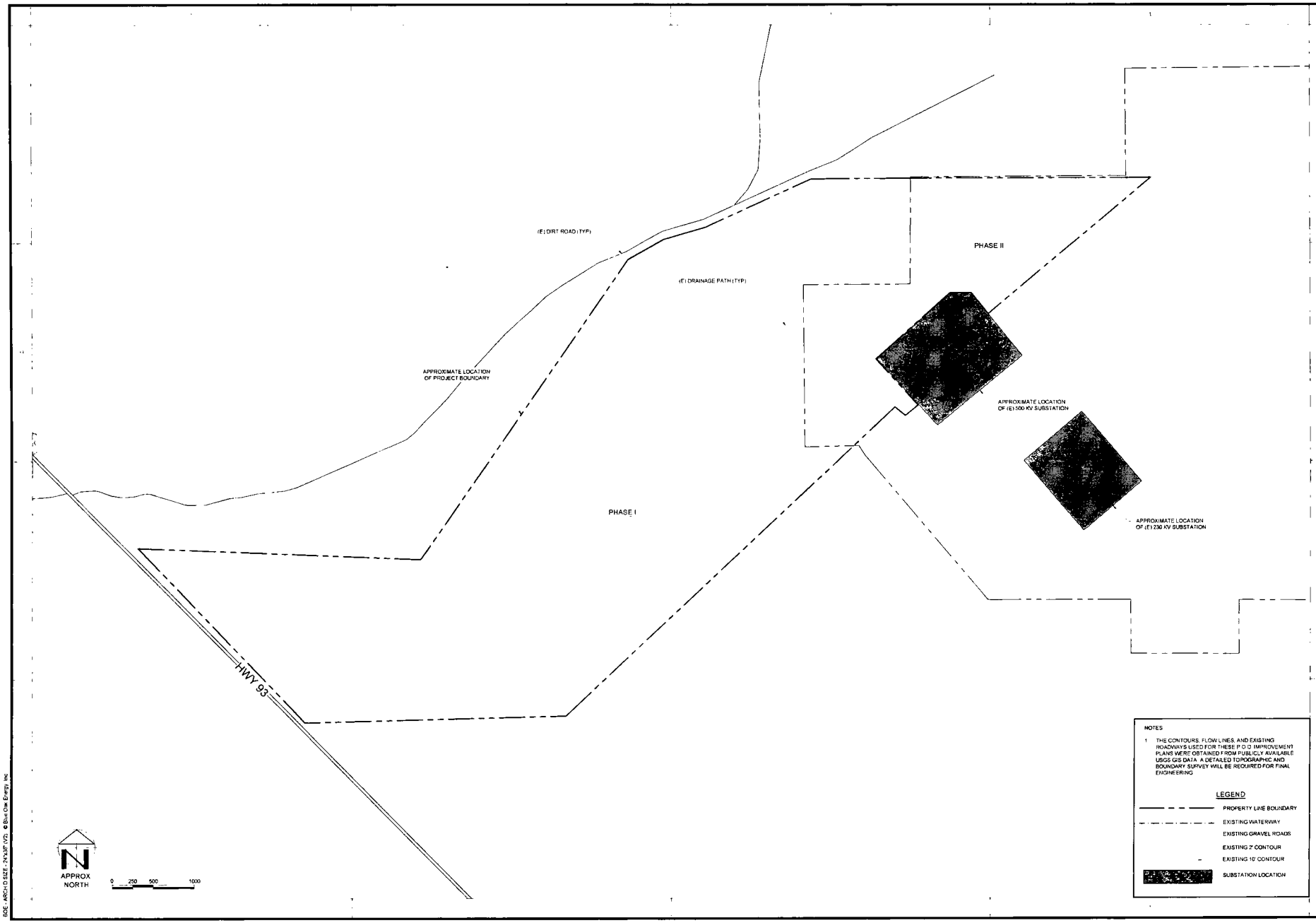

NOTES

1. THE CONTOURS, FLOW LINES, AND EXISTING ROADWAYS USED FOR THESE P.O.D. IMPROVEMENT PLANS WERE OBTAINED FROM PUBLICLY AVAILABLE USGS GIS DATA. A DETAILED TOPOGRAPHIC AND BOUNDARY SURVEY WILL BE REQUIRED FOR FINAL ENGINEERING.

LEGEND

- PROPERTY LINE BOUNDARY
- EXISTING WATERWAY
- EXISTING GRAVEL ROADS
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- SUBSTATION LOCATION

BLUE OAK ENERGY
1560 Drew Avenue
Davis, CA 95616
www.blueoakenergy.com
530 747 2026

CLIENT
Invenergy

ONE SOUTH WACKER DRIVE SUITE 1900
CHICAGO, IL 60606

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INTERNAL USE ONLY
DRAWN: CEK
CHK'D: BSH
P.M.: BSH
PROJECT #: INV0 14.002
FILE NAME: DRY LAKE-C-101.dwg
DATE: 09/23/2014
PRINTED: 09/23/2014

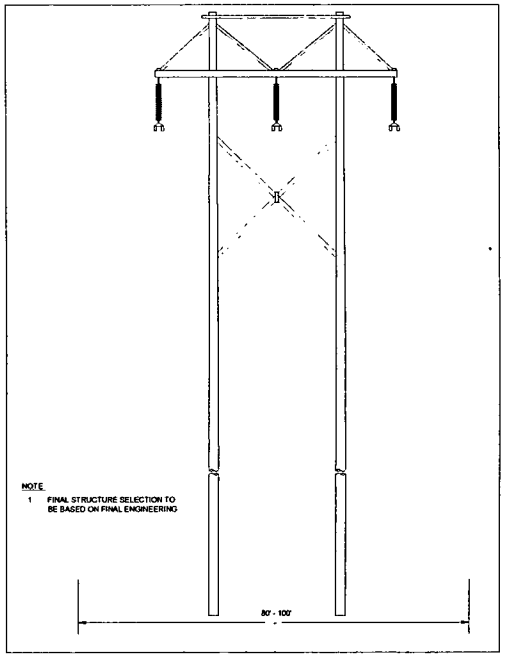
PROJECT
HARRY ALLEN SOLAR ENERGY CENTER
CLARK COUNTY, NV

DRAWING TITLE
EXISTING SITE PLAN

DRAWING NO.
C-101

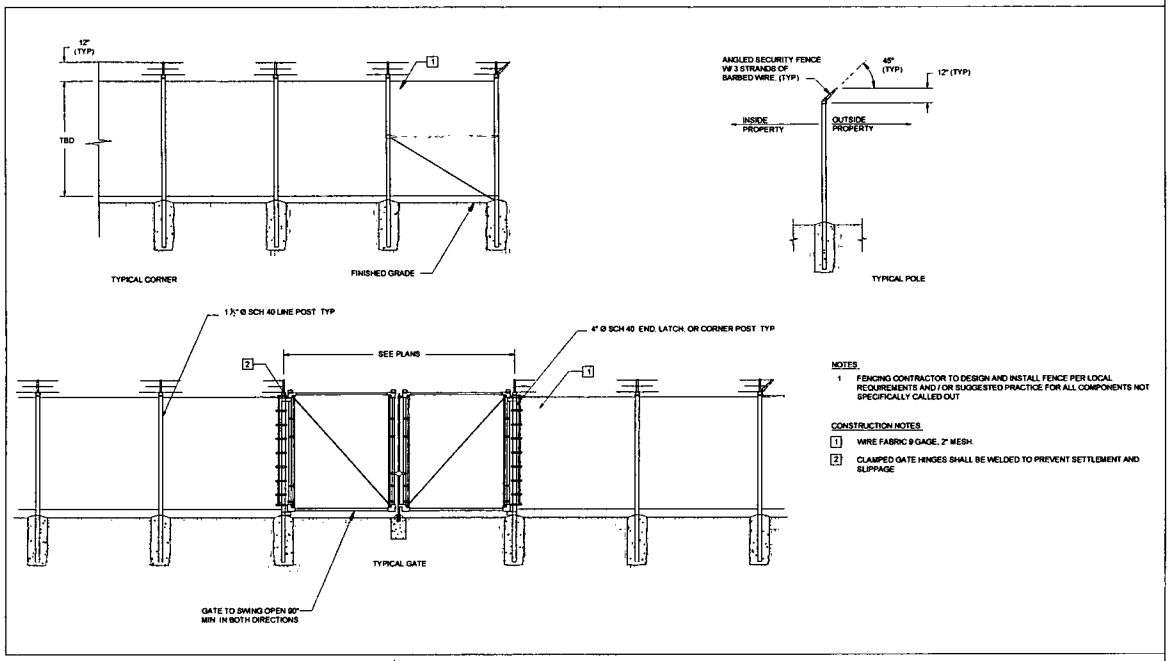
BOE - ARCH D SIZE - 24"x36" (V2) © Blue Oak Energy, Inc.

EXHIBIT E



NOTE
1 FINAL STRUCTURE SELECTION TO BE BASED ON FINAL ENGINEERING

A TYPICAL POWER POLE
SCALE NTS



NOTES
1 FENCING CONTRACTOR TO DESIGN AND INSTALL FENCE PER LOCAL REQUIREMENTS AND / OR SUGGESTED PRACTICE FOR ALL COMPONENTS NOT SPECIFICALLY CALLED OUT

CONSTRUCTION NOTES
1 WIRE FABRIC 9 GAGE, 2" MESH.
2 CLAMPED GATE HINGES SHALL BE WELDED TO PREVENT SETTLEMENT AND SLIPPAGE

B TYPICAL CHAIN LINK FENCE
SCALE NTS

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DRAWN: CEK
CHKD: BSH
P.M.: BSH
PROJECT #: WVB.14.022
FILE NAME: DRY LAKE-C-401.dwg
PRINTED: 08/25/2014

DATE	BY	DESCRIPTION

PROJECT:
HARRY ALLEN SOLAR ENERGY CENTER
CLARK COUNTY, NV

DRAWING TITLE:
SITE DETAILS

DRAWING NO.
C-401

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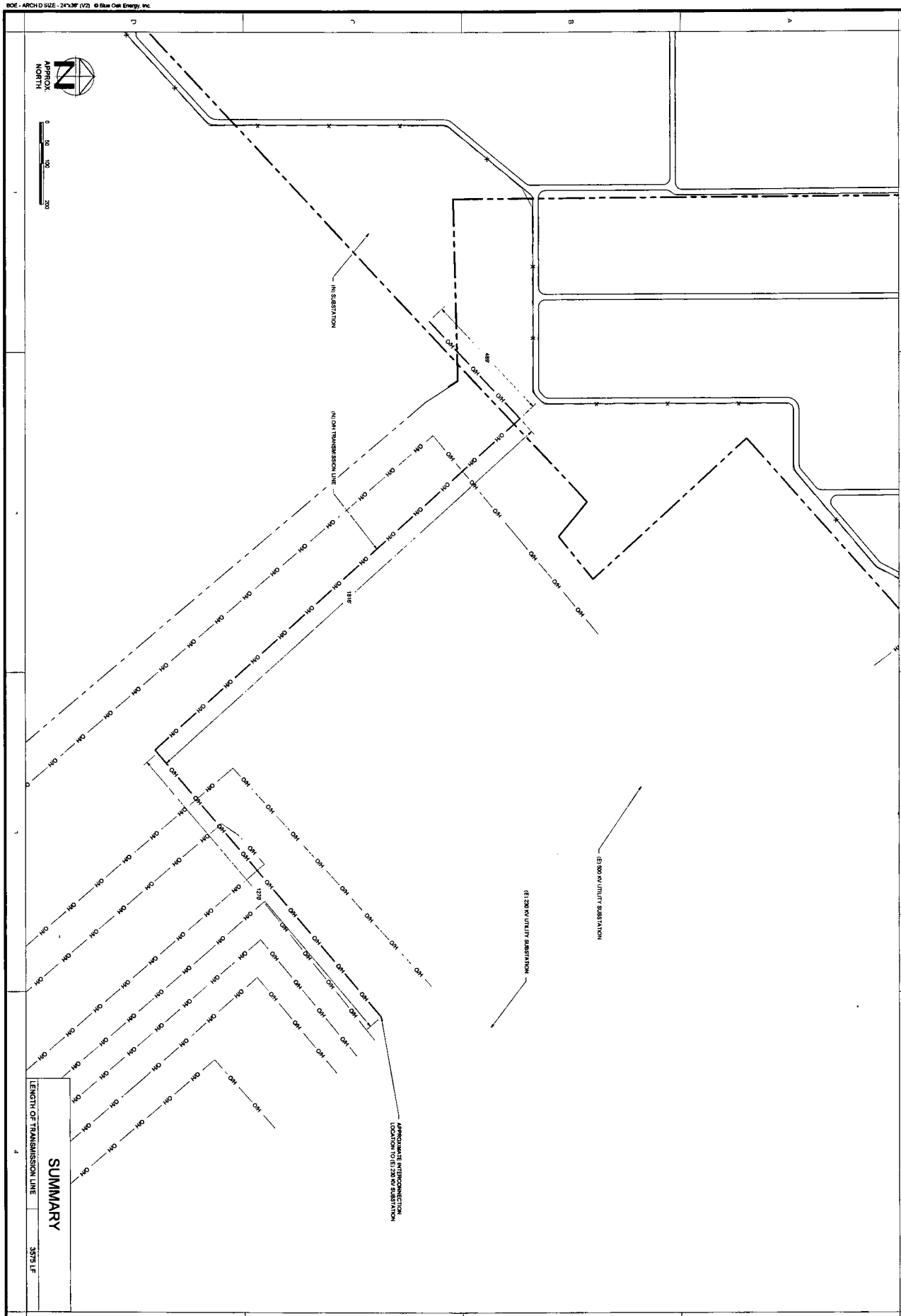

DRAWING NO. W-112

PROJECT: HARRY ALLEN SOLAR ENERGY CENTER

CLARK COUNTY, NV

DRAWING TITLE: TRANSMISSION LINE PLAN

DESCRIPTION	DATE	BY

- INTERNAL USE ONLY -

DRAWN:	CEK
CHK'D:	BSH
P.M.:	BSH
PROJECT #:	INVO.14.002
FILE NAME:	DRY LAKE-W-112.dwg
PRINTED:	08/23/2014

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ONE SOUTH WACKER DRIVE SUITE 1920 CHICAGO, IL 60606

CLIENT: Invenergy

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www.blueoakenergy.com
530.747.2026

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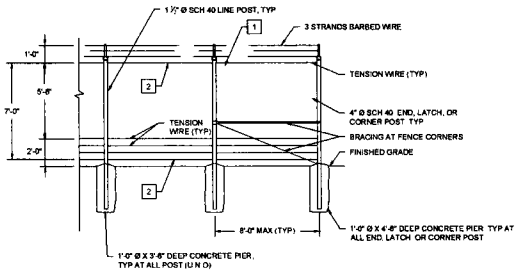
NOTES:

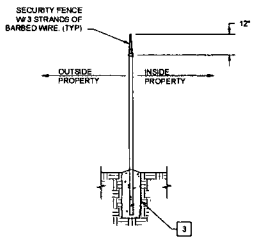
TENSION WIRE STRANDS AT THE BOTTOM, WITH A MINIMUM OF 8" BETWEEN STRANDS FOR 24 INCHES (STARTING FROM THE GROUND).

FENCING CONTRACTOR TO DESIGN AND INSTALL FENCE PER LOCAL REQUIREMENTS AND / OR SUGGESTED PRACTICE FOR ALL COMPONENTS NOT SPECIFICALLY CALLED OUT

CONSTRUCTION NOTES:

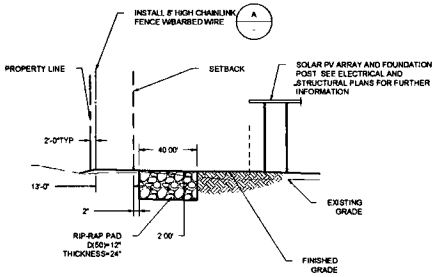
1. WIRE FABRIC 9 GAGE, 2" MESH
2. NO 7 GA TENSION WIRES (BOTTOM WIRE SHALL BE INSTALLED 4" FROM FINISHED GRADE)
3. FENCE POST CONCRETE PIERS TO HAVE AN ADDITIONAL 1 25' OF DEPTH ALL WASHES AND LOCATIONS THAT WILL EXPERIENCE OFF-SITE STORM WATER FLOW





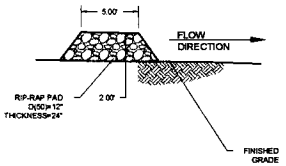
(A) CHAIN LINK WITH 24' OF TENSION WIRE BELOW - NON-RESTRICTING STORM WATER FENCING

SCALE NTS



(B) RIP-RAP LINED SEDIMENT BASIN

SCALE NTS



(B) RIP-RAP CHECK DAMS

SCALE NTS

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530 747 2026

CLIENT:
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ONE SOUTH WACKER DRIVE, SUITE 1900, CHICAGO, IL 60606

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DRAWN: XXX
CHKD: XXX
P.M.: XXX
PROJECT #:
INVL14.L03
FILE NAME:
Q-D-C3.dwg

DATE	BY	DESCRIPTION
10/11/2014		

PROJECT: HARRY ALLEN SOLAR ENERGY CENTER
CLARK COUNTY, NV
DRAWING TITLE: GRADING AND DRAINAGE DETAILS
DRAWING NO. C3

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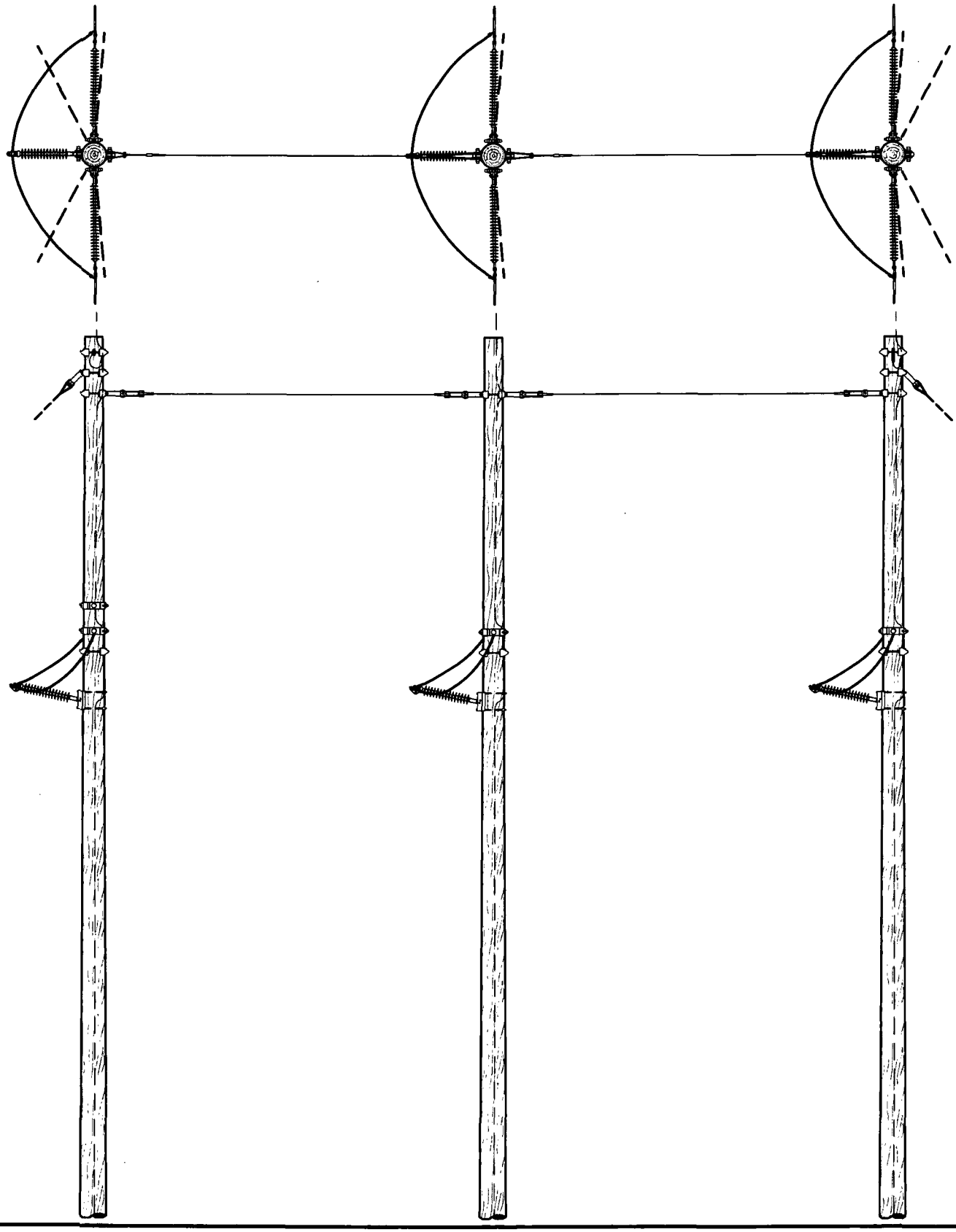


FILE LOCATION: I:\INVENERGY WIND, LLC\INV-XXX DRY LAKE SOLAR FARM\TRANSMISSION\CADD\WORKING\EXHIBIT\ASSEMBLY DRAWING\INV-A-TD06-2.DWG LAST SAVED BY: mdcottet 8/13/2014 1:54 PM PLOTTED BY: Michael D. Cottet 8/21/2014 11:54 AM Tab:THDE-230

ELECTRICAL CONSULTANTS, INC.

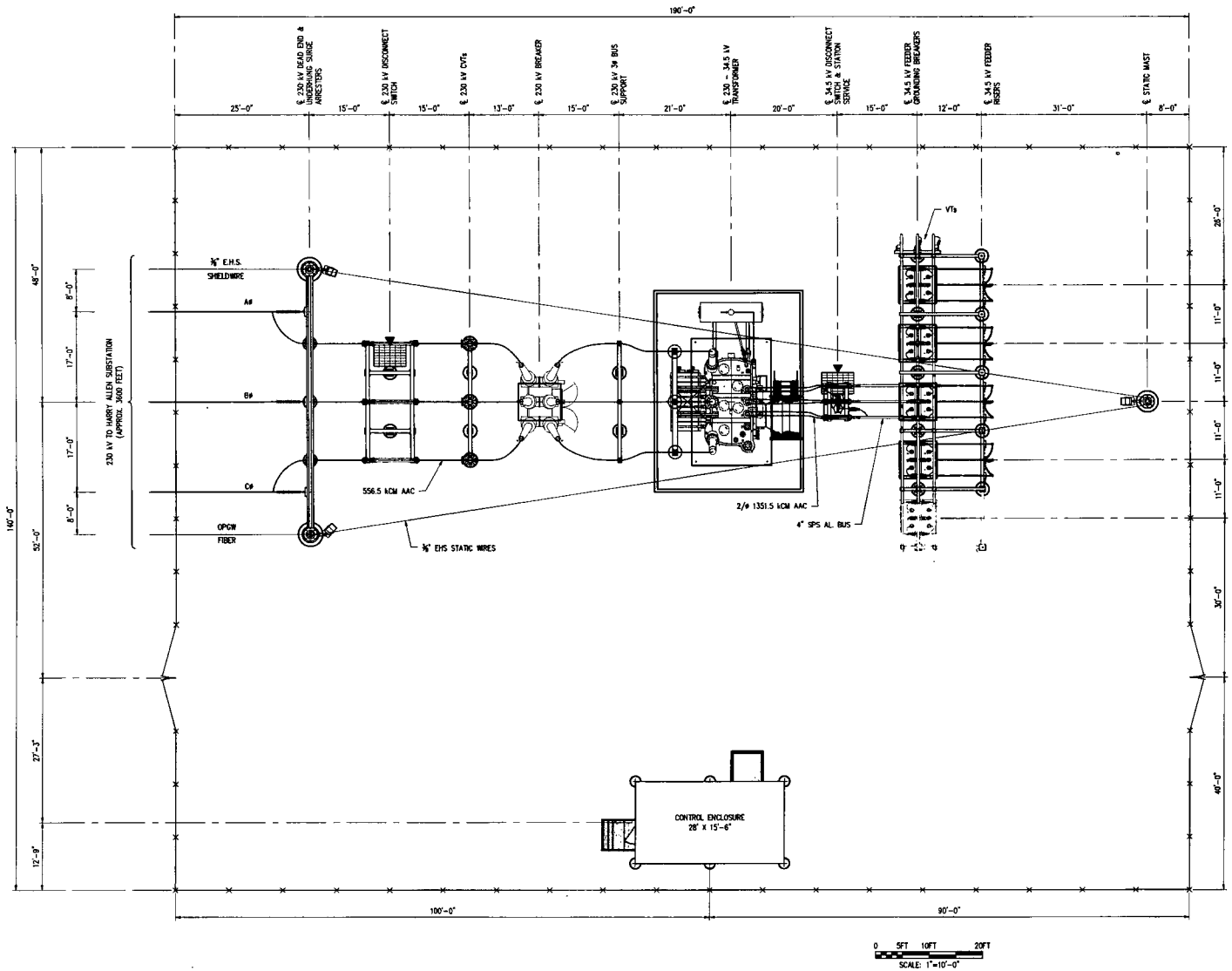
Invenergy

ENGINEERING RECORD		DATE
DRAWN	MDC	8/8/14
DESIGNED	MCH	8/8/14
CHECKED		
APPROVED		
DWG SCALE: AS NOTED	PLT SCALE:	

HARRY ALLEN SOLAR ENERGY CENTER 230 kV TRANSMISSION LINE

STRUCTURE
THDE-230

DWG. NAME: INV-A-TD06-2 REVISION NO.: A



PRELIMINARY
NOT FOR CONSTRUCTION

ISSUED FOR PERMITTING

LEGEND

- BASELINE MARKER
- BASELINE
- NEW FENCE
- SWITCH OPERATOR
- STRUCTURE MOUNTED YARD LIGHTING
- 1 / P005-1 — INDICATES DETAIL 1; INDICATES DRAWING ON WHICH DETAIL APPEARS "DLS-D-P005-1"
- A / P004-1 — INDICATES ELEVATION A; INDICATES DRAWING ON WHICH ELEVATION APPEARS "DLS-D-P004-1"

STRUCTURE DESIGN CRITERIA

230 kV CLEARANCE: (900 kV BIL)

LIVE PARTS: MIN ϕ-G=71"
MIN ϕ-ϕ=89"

TO GRADE: 15'-0" (BUS)
27'-0" (DRIVEWAY)

34.5 kV CLEARANCE: (200 kV BIL)

LIVE PARTS: MIN ϕ-G=13"
MIN ϕ-ϕ=18"

TO GRADE: 10'-0" (BUS)
22'-0" (DRIVEWAY)

NOTES

1. SEE DRAWING DLS-D-P001-1 FOR DRAWING LIST.
2. SEE DRAWING DLS-B-Z001 FOR BILL OF MATERIALS.

FILE LOCATION: L:\INVENERGY WIND, LLC\INV-XXX HARRY ALLEN SOLAR ENERGY CENTER\SUBSTATION\CADD\WORKING\PHYSICAL\DLS-D-P003-1.DWG LAST SAVED BY: smswanke 8/22/2014 1:08 PM PLOTTED BY: Steve M. Swanke 8/22/2014 1:08 PM Tab: DLS-D-P003-1

"Engineering with Distinction"
ECI ELECTRICAL CONSULTANTS, INC.

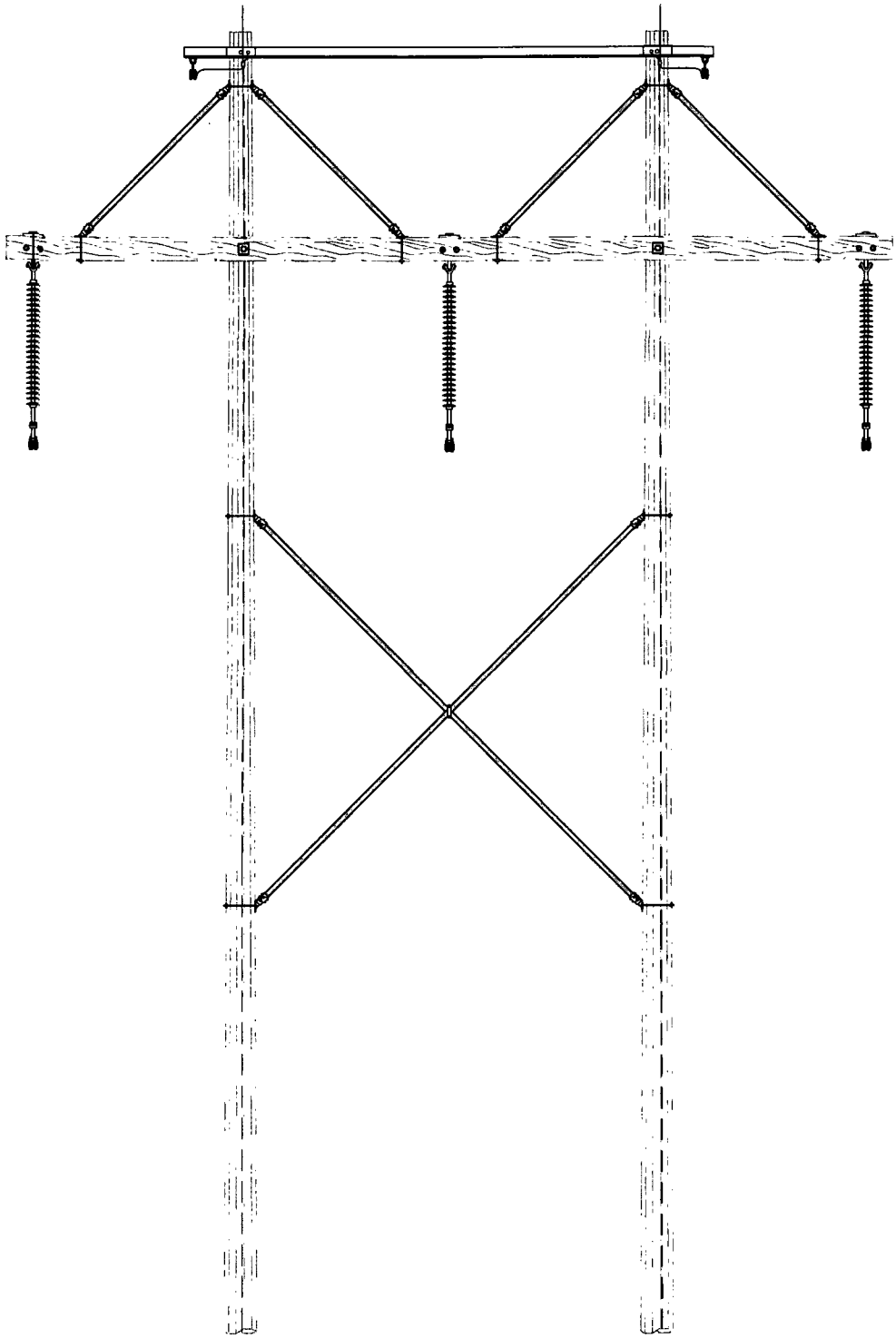
NO	REVISION	DATE	BY	APR
A	ISSUED FOR PERMITTING	8/5/14	SMS	DRM

Invenergy

ENGINEERING RECORD		DATE
DRAWN	SWANKE	8/1/14
DESIGNED	MAEHL	8/1/14
CHECKED		
APPROVED		
DWG SCALE: 1" = 10'-0"	PLT SCALE: 1:1	

HARRY ALLEN SOLAR ENERGY CENTER
230-34.5 kV SUBSTATION
GENERAL ARRANGEMENT PLAN

DWG. NAME: DLS-D-P003-1 REVISION NO : A



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ENGINEERING RECORD		DATE
DRAWN	MDC	8/8/14
DESIGNED	MCH	8/8/14
CHECKED		
APPROVED		
DWG SCALE: AS NOTED	PLT SCALE:	

HARRY ALLEN SOLAR ENERGY CENTER 230 kV TRANSMISSION LINE

STRUCTURE
TH-230

DWG. NAME: INV-A-T006-1 REVISION NO: A

EXHIBIT F

U.S. Department of the Interior
Bureau of Land Management

Finding of No New Significant Impact
DOI-BLM-NV-S010-2014-0125-EA
December: 2014

Harry Allen Solar Energy Project

Location:
Dry Lake Solar Energy Zone
Clark County, Nevada

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BLM

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAS VEGAS FIELD OFFICE

INTRODUCTION

The Bureau of Land Management (BLM) prepared an environmental assessment (EA) (DOI-BLM-NV-S010-2014-0125-EA) that analyzed the effects of development of an up-to-130 megawatt (MW) solar energy generation project proposed by Invenergy Solar Development, LLC (Invenergy Solar) on BLM-managed lands in Clark County, Nevada. The EA is a project-specific analysis of potential impacts that could result from the implementation of the Proposed Action within the BLM's Dry Lake Solar Energy Zone (SEZ) which was analyzed within the *Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* (herein called the Solar PEIS) (Solar PEIS; BLM and U.S. Department of Energy [DOE] 2012). The EA is tiered to, and incorporates by reference, the analysis of the effects described in the Solar PEIS.

I have reviewed the EA for the Harry Allen Solar Energy Project (DOI-BLM-NV-S010-2014-0125-EA; herein called the Project), dated December 2014. After consideration of the environmental effects as described in the EA, I have determined that the Proposed Action will not result in any new significant effects to the quality of the human environment that were not fully analyzed in the Solar PEIS and that a project specific environmental impact statement (EIS) is not required.

Mitigations from Environmental Assessment

Resource Measures

Resource conservation measures and regulatory required plans are included as part of the Proposed Action, as listed in Section 2.2.7 of the EA. The Solar PEIS also established a number of requisite design features that will be incorporated as needed into the Project. All appropriate design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented. Additionally, all relevant minimization measures from the project specific biological opinion will be implemented. A third-party compliance inspection contractor, approved by the BLM, will be employed by the Applicant to ensure compliance with all design features and mitigation incorporated into the Decision Record (DR).

Through the Western Solar Plan (BLM 2014a), the BLM adopted a policy that it would develop regional mitigation plans or strategies for SEZs. The BLM prepared the Solar Regional Mitigation Strategy (SRMS) for the Dry Lake SEZ, which it issued on March 17, 2014 (BLM 2014b). The SRMS for the Dry Lake SEZ presents an approach for compensating for the unavoidable impacts that are expected from development of the Dry Lake SEZ.

The SRMS takes into account the resource conditions of the land and regional trends informed by the BLM's recent Rapid Ecoregional Assessments (NatureServe 2013), and was developed in collaboration with stakeholders to address key issues such as off-site mitigation and the costs associated with implementation of mitigation. The implementation of additional project-specific mitigation measures identified in the SRMS and EA would further reduce adverse environmental impacts without causing any new significant impacts.

I have also considered the Council on Environmental Quality's criteria for significance (40 Code of Federal Regulations 1508.27), with regard to the context and the intensity of impacts described in the EA (see below).

Context

Under NEPA's implementing regulations, "context" means that consideration of "the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality." 40 CFR 1508.27(a). The Project is located within the boundaries of parcel one of the Dry Lake SEZ, which has been identified as priority areas for solar energy development through an amendment to the Las Vegas Resource Management Plan by the Solar PEIS Record of Decision (ROD) (BLM 2012). The Project directly involves approximately 715 acres of federal public lands administered by the BLM within the 5,000-acre Dry Lake SEZ. The EA analyzes direct, indirect, and cumulative effects of the Proposed Action using the appropriate geographic scope, which varies by resource and is described on a resource-by-resource basis throughout chapter 3 of the EA. As identified in the EA, the Project would result in direct, indirect and cumulative impacts both within parcel one and the immediate area surrounding the Project site.

BLM Nevada elected to use a competitive process to decide among the several solicitations of interest and ROW applications it had received within the designated boundaries of the Dry Lake SEZ (43 CFR 2804.23; 79 Fed. Reg. 31129). The purpose of offering the parcels for competitive solar leasing was to support the Department of the Interior's achievement of the goal of approving 20,000 MW of renewable energy projects on the public lands by 2020 as set by the President in his June 25, 2013 announcement of the release of a Climate Action Plan to reduce carbon pollution, prepare the U.S. for the impacts of climate change, and lead international efforts to address global climate change (BLM 2014c). The Project will assist BLM in fulfilling these policy goals and objectives while simultaneously siting the Project on lands identified as suitable for solar energy development.

Intensity

1) *Impacts that may be both beneficial and adverse*

   Adverse impacts of the Proposed Action include the following and are within the type and intensity of impacts analyzed in the Solar PEIS:

   - Temporary increases in particulate matter during construction;
   - Long-term loss of 717 acres of habitat;
   - Removal of cactus and yucca species from within the project area;
   - The need for translocation of desert tortoise;
   - An increased risk of spread of noxious and invasive species;
   - Changes to the historic setting of the Old Spanish Trail/Mormon Road; and
   - Visual contrast with the existing landscape.

   The potential for adverse impacts has been reduced by including conservation measures in the description of the Proposed Action and by adherence to the recommendations in the SRMS to offset unavoidable adverse impacts.

   Beneficial impacts would include a minor reduction in the need for additional fossil-fuel electricity generation in the future. This reduction would not be significant. Additionally, there would be a beneficial impact from additional employment opportunities and increases in tax revenues.

2) *The degree to which the Proposed Action affects public health or safety*

Potential impacts to health and safety would occur during the construction phase of the Project and are within the type and intensity of impacts analyzed in the Solar PEIS. The Proposed Action has been designed to control public access to the construction site to prevent construction-related accidents. Plans for fire management, and the transportation of large equipment, etc., will be included in the final Plan of Development and will address potential public hazard situations.

3) *Unique characteristics of the geographic area such as proximity to historical or cultural resources, parks lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas*

Impacts to historical and cultural resources, parks lands, prime farmlands, wetlands, wild and scenic rivers, and ecologically critical areas were all considered during development of the Proposed Action and are within the type and intensity of impacts analyzed in the Solar PEIS. Surveys for cultural resources were conducted in support of the Dry Lake SEZ and included the project area to allow avoidance of cultural and historical resources. There are no park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas in the project area.

4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial*

The Proposed Action is located in an area that has been established for solar energy development as part of the Western Solar Plan. The Proposed Action is consistent with the types of actions described in the Final Solar PEIS and with the management objectives for the SEZ and is not controversial.

5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks*

The environmental effects of solar energy facilities in the Dry Lake SEZ are and are within the type and intensity of impacts analyzed in the Solar PEIS and do not involve any unique or unknown risks.

6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration*

The Proposed Action is located in an area that has been established for solar energy development as part of the Western Solar Plan, and does not establish a precedent that could influence future actions.

7) *Whether the action is related to other actions with individually insignificant, but cumulatively significant impacts*

A cumulative impact analysis was conducted in the final Solar PEIS and the project-specific EA. No new cumulatively significant impacts were identified. Implementation of the recommendations in the SRMS would further offset cumulative impacts.

8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources*

The Proposed Action avoids direct impacts to scientific, cultural, and historic resources. The Proposed Action would contribute to changes to the historic setting of the Old Spanish

Trail/Mormon Road that are within the type and intensity of impacts analyzed in the Solar PEIS. The Old Spanish Trail/Mormon Road is located 2.25 miles east of the project area. In addition, the Proposed Action would be visible from the trail in context with the other existing modifications, including a number of transmission structures and the Harry Allen combined-cycle generation station.

9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973*

The Proposed Action would have an effect on the desert tortoise. Overall impacts to desert tortoise are expected to be small (a loss of ≤1% of desert tortoise habitat in the region). Suitable habitat for southwestern willow flycatcher, the Yuma clapper rail, and the yellow-billed cuckoo does not occur within or near the Proposed Action project area and there is low potential for direct effects to occur. Endangered Species Act Section 7 consultation for the Proposed Action will be covered under the Project specific biological opinion. Impacts to listed species are within the type and intensity of impacts analyzed in the Solar PEIS.

10) *Whether the action threatens a violation of federal, state, local, or tribal law or requirements imposed for the protection of the environment*

All environmental laws were considered during development of the Proposed Action to prevent possible violations. The Proposed Action would not violate or threaten to violate any federal, state, tribal, or local law or requirement for the protection of the environment. The Proposed Action would not violate the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, or Endangered Species Act.

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FINDING OF NO NEW SIGNIFICANT IMPACT

I have determined that, with incorporation of the conservation measures and mitigation measures described in the EA, the Proposed Action will not result in any new significant effects to the quality of the human environment that were not fully analyzed in the Solar PEIS and that a project-specific environmental impact statement (EIS) is not required.

Gayle Marrs-Smith Field Office Manager Las Vegas Field Office	Date

U.S. Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NV-S010-2014-0125-EA
December 2014

Harry Allen Solar Energy Center Project

ENVIRONMENTAL ASSESSMENT

File Number: N-93321

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North of U.S. Route 93

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BLM Mission Statement

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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ACRONYMS AND ABBREVIATIONS

%	percent
AAQS	ambient air quality standards
AC	alternating current
ACEC	Area of Critical Environmental Concern
APLIC	Avian Power Line Interaction Committee
Applicant	Invenergy Solar Development, LLC
BBCS	Bird and Bat Conservation Strategy
BLM	Bureau of Land Management
BMP	best management practice
BO	biological opinion
CFR	Code of Federal Regulations
DC	direct current
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
EPC	engineering, procurement, and construction
ERMA	extensive recreation management area
ESA	Endangered Species Act of 1973, as amended
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
gen-tie line	generation-tie transmission line
GIS	geographic information system
GPS	global positioning system
HVAC	heating and ventilation and air conditioning
I-15	Interstate 15
IEC	International Electrotechnical Commission (IEC)
IM	Instruction Memorandum
Invenergy Solar	Invenergy Solar Development, LLC

T&E	Threatened and Endangered
U.S. 93	U.S. Route 93
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management
WWEC	West Wide Energy Corridor

1.0 PURPOSE AND NEED

1.1 Introduction

The Las Vegas Field Office of the Bureau of Land Management (BLM) has prepared this environmental assessment (EA) to analyze and disclose the environmental effects of developing the Harry Allen Solar Energy Center (Project), an up-to-130-megawatt (MW) solar energy generation project proposed by Invenergy Solar Development, LLC (Invenergy Solar or the Applicant). The EA is a project-specific analysis of potential impacts of the Proposed Action within the BLM's Dry Lake Solar Energy Zone (SEZ) (Parcel One of the SEZ) which was analyzed within the *Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* (herein called the Solar PEIS) (Solar PEIS; BLM and U.S. Department of Energy [DOE] 2012).

This EA will assist the BLM in project planning and compliance with the National Environmental Policy Act (NEPA) and Federal Land Policy and Management Act of 1976 (FLPMA). The EA is tiered to the July 2012 Final Solar PEIS. Tiering allows for the preparation of an EA and Finding of No Significant Impact (FONSI) for the Proposed Action (also referred to as a "Finding of No New Significant Impact," 43 Code of Federal Regulations [CFR] 46.140(c)), so long as any significant effects of the individual action were analyzed in the Solar PEIS and any additional effects of the individual action not analyzed in the Solar PEIS are not significant. This EA will consider the impacts of the Proposed Action, tiering to the analysis of the effects analyzed in the Solar PEIS, and will help the BLM determine if the Proposed Action would result in significant effects not already considered in the Solar PEIS. "Significance" is defined by the Council on Environmental Quality's NEPA implementing regulations found at 40 CFR 1508.27. If the Proposed Action would result in significant effects not fully analyzed in the Solar PEIS, those impacts would either need to be mitigated below significance or an environmental impact statement (EIS) would need to be prepared before the BLM could authorize the Proposed Action (BLM NEPA Handbook H-1790-1, Section 5.2.2 [BLM 2008a]). This EA, in combination with the analysis in the Solar PEIS, is intended to serve as the necessary NEPA documentation for the Project and to identify any recommended compensatory mitigation measures.

1.2 Background

Through the Solar PEIS and Record of Decision (ROD), the BLM established a comprehensive Solar Energy Program (also known as the Western Solar Plan) for utility-scale solar energy development on BLM-administered lands in six southwestern states: Nevada, Arizona, California, Colorado, New Mexico, and Utah. The Western Solar Plan defines utility-scale projects as those with capacities of 20 MW or greater that generate electricity that is delivered into the transmission grid. As part of the Western Solar Plan, the BLM identified specific locations that are well suited for utility-scale production of solar energy (SEZs) where the BLM proposes to prioritize development, which included the establishment of the Dry Lake SEZ located in Clark County, Nevada. In accordance with the regulations that allow the BLM to resolve competition among right-of-way (ROW) applications (43 CFR 2804.23) by using competitive bidding procedures, on June 30, 2014, the BLM held a competitive auction for six parcels of public land within the Dry Lake SEZ located in Clark County, Nevada. Invenergy Solar was one of three successful bidders to become a preferred applicant with the right to submit a ROW application and Plan of Development (POD) for a solar energy project within the Dry Lake SEZ. Invenergy Solar has applied for a ROW grant to construct, operate, maintain, and decommission the Project on public land within Parcel One of the Dry Lake SEZ managed by the BLM. The Project, which would be built in phases,[1] would produce up to 134 MW of electricity, using ground-mounted solar photovoltaic (PV) panels. Phase I of

[1] Project phases may be built concurrently, or consecutively.

the Project would consist of approximately 112 MW and Phase II would consist of approximately 18 MW. Both phases of the 715-acre project area (all on federal land) lie within Sections 33, 34, 35, and 36, Township 17 South, Range 63 East, Mount Diablo Meridian, and within Sections 3 and 4, Township 18 South, Range 63 East, Mount Diablo Meridian, Clark County, Nevada. A record of survey including the Project boundary aliquot part legal description, as well as the Project boundary metes and bounds description, is included in Appendix A.

The Project is located about 15 miles (24 kilometers [km]) northeast of Las Vegas in Clark County, Nevada (Figure 1). The town of Moapa is located 18 miles (29 km) northeast, and the town of Overton is located 23 miles (37 km) east of the Project. Nellis Air Force Base is located approximately 13 miles (21 km) southwest of the Project. The nearest major roads accessing the Project are Interstate 15 (I-15) and U.S. Route 93 (U.S. 93), which runs from north to south along part of the southwestern border of the Project. The Union Pacific Railroad runs north to south, east of the Project boundary. All of the proposed Project facilities are located on public lands administered by the BLM.

In addition, through the Western Solar Plan, the BLM adopted a policy that it would develop regional mitigation plans or strategies for SEZs (BLM 2012a). The BLM prepared the Solar Regional Mitigation Strategy (SRMS) for the Dry Lake SEZ, which it issued on March 17, 2014 (BLM 2014b). The SRMS for the Dry Lake SEZ presents an approach for compensating for the unavoidable impacts that are expected from development of the Dry Lake SEZ. The SRMS takes into account the resource conditions of the land and regional trends informed by the BLM's recent Rapid Ecoregional Assessments, and was developed in collaboration with stakeholders to address key issues such as off-site mitigation and the costs associated with implementation of mitigation.

1.3 Purpose and Need for Action and Decision to be Made

In accordance with the FLPMA (Section 103(c)), public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROWs on public lands for systems of generation, transmission, and distribution of electric energy (Section 501(a)(4)). Taking into account the BLM's multiple-use mandate, the purpose and need for the Proposed Action is to respond to a FLPMA ROW application submitted by the Applicant to construct, operate, maintain, and decommission a 134-MW PV solar facility and associated infrastructure on public lands administered by the BLM in compliance with FLPMA, BLM ROW regulations, applicable land-use plan, and other applicable federal laws and policies.

The lands associated with the Applicant's Project FLPMA ROW application have been identified as priority areas for solar energy development (i.e., SEZs) by the Solar PEIS ROD (BLM 2012a). The subject lands are part of the 5,717-acre Dry Lake SEZ established through an amendment to the Las Vegas Resource Management Plan (RMP; BLM 1998) by the Solar PEIS ROD. An SEZ is defined by the BLM as an area that the BLM has determined is well suited for utility-scale production of solar energy and within which the BLM will prioritize and facilitate utility-scale production of solar energy and associated transmission infrastructure development (BLM and DOE 2012).

On March 17, 2014, the BLM published a Notice Seeking Public Interest in Solar Energy Development on Public Lands in the Dry Lake Solar Energy Zone in Clark County, Nevada in the *Federal Register* (78 FR 14733). In response, the BLM received several solicitations of interest and ROW applications within the Dry Lake SEZ. The BLM's ROW regulations (43 CFR 2804.23(c)) authorize the BLM to use competitive bidding procedures if there are two or more competing ROW applications for the same facility or system. Applications for solar energy development are processed as ROW authorizations pursuant to Title V of the FLPMA. On May 30, 2014, the BLM published a Notice of Competitive

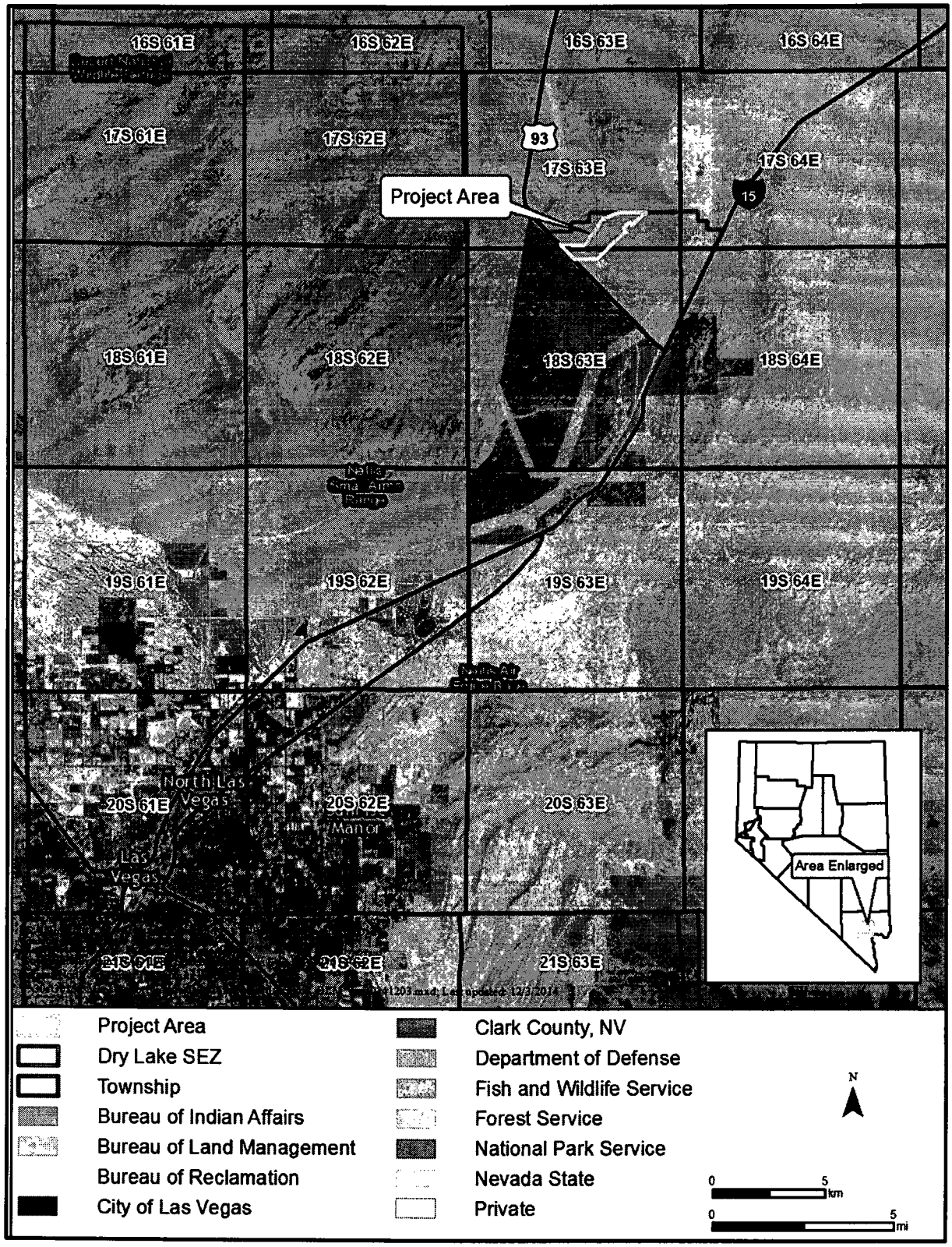

Figure 1. Project location map.

Auction for Solar Energy Development on Public Lands in the State of Nevada in the *Federal Register* (79 *Federal Register* 31129) which provided instructions on the competitive sealed and oral bid process that the BLM would use to select a preferred applicant to submit a ROW application and POD plan of development for solar energy development in the Dry Lake SEZ. In preparing the SEZ for competitive offer, the BLM the reduced the developable acres in the SEZ by approximately 2,600 acres to avoid existing ROWs and potential resource conflicts (see Section 2.4 for more information).

The policies that guide the processing of ROW applications in the SEZ are outlined in the Solar Energy Program Policies (BLM Solar Policies) (BLM 2014a) described in Appendix B of the Solar PEIS ROD (BLM 2012a). The BLM Solar Policies provide that the BLM intends to proceed with a competitive process to facilitate solar energy development projects in the SEZ. The BLM ROW regulations (43 CFR 2804.23(c)) authorize the BLM to use competitive bidding procedures if there are two or more competing ROW applications for the same facility or system. Because the BLM received several solicitations of interest and ROW applications for lands within the Dry Lake SEZ, the BLM used a competitive process to select preferred applicants to submit ROW applications and PODs for solar energy development in the SEZ.

The SRMS for the Dry Lake SEZ, released on March 17, 2014, was prepared to meet a commitment from the ROD for the Solar PEIS to develop regional mitigation strategies for each of the SEZs (BLM 2014b). Preparation of the SRMS involved a significant amount of public involvement, including four public workshops, several web-based meetings, and several public comment opportunities. The SRMS describes unavoidable adverse impacts and makes recommendations for off-site mitigation actions and costs that the BLM will consider when processing ROW applications in the SEZ. The mitigation actions and costs identified in the strategy are recommended to compensate for loss of habitat, ecological services, and visual resources that are expected to occur from development of the Dry Lake SEZ.

On June 30, 2014, the BLM conducted a competitive auction for 3,083 acres of land (divided into six individual parcels) within the Dry Lake SEZ to select preferred applicants to submit ROW applications and PODs for solar energy projects. Invenergy Solar submitted a preliminary ROW application to participate in the competitive auction and was the successful bidder on Parcel One auctioned within the Dry Lake SEZ for a total application area of approximately 714.99 acres. As required, Invenergy Solar submitted a supplemental ROW application and POD to develop a solar energy project on the applicable parcel.

In addition to the FLPMA and the regulations implementing FLPMA, the BLM's applicable authorities and policies include the following:

1. Executive Order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "production and transmission of energy in a safe and environmentally sound manner."

2. The Energy Policy Act of 2005 (Public Law 109-58). Section 211 of the Act states, "It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity."

3. Secretarial Order 3285A1, Renewable Energy Development by the DOI, dated February 22, 2010. This Secretarial Order establishes the development of renewable energy as a priority for the U.S. Department of the Interior (DOI) and creates a Departmental Task Force on Energy and Climate Change. It also announced a policy goal of identifying and prioritizing specific locations (study areas) best suited for large-scale production of solar energy.

4. Instruction Memorandum (IM) 2011-59, National Environmental Policy Act Compliance for Utility-Scale Renewable Energy ROW Authorizations, dated February 7, 2011. This IM reiterates and clarifies existing BLM NEPA policy to assist offices that are analyzing externally generated, utility-scale renewable energy ROW applications. It includes examples and guidance applicable to such applications that supplement information in the BLM's NEPA Handbook (H-1790-1) (BLM 2008a) that reflect that utility-scale renewable energy projects are distinct from many other types of land and realty actions due to their size and potential for significant resource conflicts, as well as the priority that has been placed on them by the DOI.

The BLM will review the Applicant's proposal, and in accordance with NEPA, FLPMA, and other applicable laws, and with land-use planning decisions in the Solar PEIS ROD, issue a decision to grant the proposed ROW; grant the ROW with modifications; or deny the ROW (43 CFR 2805.10 (a)(1)). Drawing upon the preliminary findings and recommendations in the SRMS for the Dry Lake SEZ, the BLM also will identify unavoidable impacts associated with solar development, evaluate potential compensatory mitigation measures to address those impacts, and, in its decision, identify any compensatory mitigation measures that it determines are appropriate.

1.4 Resource Management Plan Conformance

The Proposed Action is located on federal lands managed by the BLM Southern Nevada District Office under the October 1998 Las Vegas RMP (BLM 1998). The Las Vegas RMP was amended through the Solar PEIS ROD in October 2012 (BLM 2012a) to incorporate the designation of the Dry Lake SEZ. This amendment identified the following as applicable to all new utility-scale solar energy projects on BLM-administered lands:

1. Priority areas for solar energy development that are well suited for utility-scale production of solar energy, including the 5,717-acre Dry Lake SEZ and the 8,479-acre Amargosa Valley SEZ (BLM 2012a:Appendix A Table A-1, p. 32).
2. 873,518 acres as potentially available for utility-scale solar energy development outside of the Dry Lake and Amargosa Valley SEZs (i.e., variance areas) (BLM 2012a:Appendix A Table A-1, p. 32).
3. 2,412,286 acres to be excluded from utility-scale solar energy development (i.e., exclusion areas) within the Las Vegas RMP area.
4. Required programmatic and SEZ-specific design features for solar energy development on public lands to ensure the most environmentally responsible development and delivery of solar energy (BLM 2012a:Appendix A Table A-5, p. 139 et seq.).

The principles of multiple-use management for the BLM are established through FLPMA. The current BLM Las Vegas RMP is consistent with FLPMA and guides the decisions for the BLM.[2] The Proposed Action is in conformance with the following management objectives and directions of the 1998 BLM Las Vegas RMP/EIS, as amended (BLM 1998):

Objective LD-2. "All public lands within the planning area, unless otherwise classified, segregated or withdrawn, and with the exception of Areas of Critical Environmental Concern and Wilderness Study Areas, are available at the discretion of the agency, for land use leases and permits under Section 302 of Federal Land Policy and Management Act." (BLM 1998:18)

[2] On Friday, October 10, 2014, the BLM issued a Notice of Availability of the Las Vegas and Pahrump Field Offices Draft RMP and Draft EIS, Nevada (79 *Federal Register* 61334-01). Following the conclusion of the public participation process for the proposed RMP revision and issuance of a Final EIS, the RMP revision will replace the existing Las Vegas RMP.

Objective RW-1. "Meet public demand and reduce impacts to sensitive resources by providing an orderly system of development of transportation, including legal access to private inholdings, communications, flood control, major utility transmission lines, and related facilities." (BLM 1998:19)

Management Direction RW-1-h. "All public land within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for rights-of-way under the authority of the FLPMA." (BLM 1998:19)

In addition, the Project is located in an SEZ and has been designed in accordance with the policies and procedures described for this particular land use allocation (BLM 2012a:Appendix B). According to the Solar PEIS ROD (BLM 2012a), no additional land-use plan amendments are expected to be required to approve projects in SEZs (BLM 2012a: Section B.4.2.1).

1.5 Relationship to Other Plans and Analyses

The Proposed Action would be consistent with other officially approved federal, state, and local plans, policies, and programs and with applicable federal regulations, policies, and laws. The following documents as they relate to the Proposed Action have been reviewed and considered as the EA has been developed:

- The *Clark County, Nevada Comprehensive Plan* (Clark County Department of Comprehensive Planning 2014) supports multiple uses of public lands outside of special management areas which do not negatively impact the environment.
- The Solar PEIS, which contained a comprehensive environmental review of all of the BLM's identified SEZs, including direct, indirect, and cumulative impacts for each SEZ, so that projects proposed with the SEZs could tier off the Solar PEIS resulting in limited project-specific NEPA analysis. The BLM, through the Solar PEIS, developed action plans for each SEZ identifying SEZ-specific actions that could be undertaken to facilitate future development within each SEZ. The action plan recommended within the Dry Lake SEZ that a Class III cultural resources survey be conducted. The analysis from the Solar PEIS informed the BLM in its designation of the SEZs and forms the basis for further evaluation of the potential environmental impacts of the specific projects within each SEZ.
- The *Solar Regional Mitigation Strategy for the Dry Lake Solar Energy Zone* (BLM 2014b) describes unavoidable adverse impacts and makes recommendations for off-site mitigation actions and costs that the BLM will consider when processing ROW applications in the Dry Lake SEZ. The SRMS recommended a per-acre fee that developers would pay for acres disturbed by development. The BLM's selection of any compensatory mitigation measures will be consistent with the procedures described by IM 2013-142 (June 13, 2013) and draft Manual Section 1794, "Regional Mitigation," which includes guidance for management of funds collected as part of the restoration, acquisition, or preservation portion of the total mitigation fee by an independent third party. The Dry Lake SRMS is incorporated by reference into this EA, where relevant.
- The Endangered Species Act of 1973, as amended (ESA) (16 United States Code [USC] Section 1531) programmatic biological opinion (BO) regarding the designation of the SEZs under the BLM's Solar Energy Program was developed to help streamline the consultation process when evaluating individual projects (U.S. Fish and Wildlife Service [USFWS] 2012). The programmatic BO concluded that BLM's Solar Energy Program which included the designation of the SEZs is not likely to jeopardize the continued existence of any species listed under the ESA or destroy or adversely modify designated or proposed critical habitat. The project-specific BO for the Proposed Action will tier to the programmatic BO.

- The Programmatic Agreement (BLM 2012b) regarding solar energy development on lands administered by the BLM was developed to establish the process the BLM will follow to comply with Section 106 of the National Historic Preservation Act (NHPA). The Proposed Action would be consistent with the principles and procedures outlined in the Programmatic Agreement.
- The BLM's *Final PEIS Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States* (BLM 2007a) addresses human health and ecological risk for the proposed use of chemical herbicides on public lands within 17 western states, including Nevada, and provides a cumulative impact analysis addressing the use of chemical herbicides in conjunction with other treatment methods. The ROD (BLM 2007b) outlines the herbicides that are approved for use on public lands, and approves the continued use of 14 herbicides, including those with the active ingredient glyphosate.

1.6 Identification of Issues

This EA focuses on the issues that have been identified through the public involvement processes attendant to the development and approval of the Solar PEIS, SRMS, Tribal consultation, and other actions that have been completed for the Dry Lake SEZ. See Chapter 4, Coordination for more information on consultation and coordination completed as part of the Solar PEIS and the Proposed Action. In addition, on September 17, 2014, a description of the Proposed Action was presented to the BLM interdisciplinary team. BLM resource specialists reviewed the Proposed Action and the following preliminary issues were identified for further consideration in this EA.

- Air Quality
  - Temporary exceedances of ambient air quality standards (AAQS) for 24-hour and annual concentration levels of particulate matter 10 microns in diameter or smaller (PM_{10}) and 24-hour concentration levels of particulate matter 2.5 microns in diameter or smaller ($PM_{2.5}$) at the SEZ boundaries and in the immediate surrounding areas during the construction of solar facilities.
- Vegetation
  - The spread of noxious weeds in disturbed areas and colonization of adjacent undisturbed habitats.
  - The deposition of fugitive dust from large areas of disturbed soil onto habitats outside the solar project area.
  - Removal of cactus and yucca species from the project area.
  - Cumulative loss and fragmentation of native plant communities and the ecosystem services they provide.
- Forestry
  - Direct impacts to special forest products (cactus and yucca) from the project area.
  - Direct and cumulative impacts to BLM lands used for commercial seed collection.
- Wildlife
  - Impacts to groundwater-dependent species, including the federally listed Moapa dace (*Moapa coriacea*).
  - Impacts to federally listed Mojave desert tortoise (*Gopherus agassizii*) which would need to be translocated from the development sites within the SEZ.

  - Impacts to the federally listed southwestern willow flycatcher (*Empidonax traillii extimus*), the Yuma clapper rail (*Rallus longirostris yumanensis*), and the threatened yellow-billed cuckoo (*Coccyzus americanus*).
  - Impacts to birds and bats would require a Bird and Bat Conservation Strategy (BBCS).
  - Impacts to wildlife habitat and individuals, including BLM sensitive species.
  - Cumulative loss and fragmentation of wildlife habitat.
  - Cumulative loss and fragmentation of habitat for BLM special-status wildlife.
- Cultural Resources
  - Indirect impact on the National Register of Historic Places (NRHP)–eligible section of the Old Spanish Trail.
- Native American Concerns
  - Impacts to plant and animal species of cultural importance to the Southern Paiute.
- Specially Designated Areas and Lands with Wilderness Characteristics
  - Visual resource impacts in Arrow Canyon and the Muddy Mountains Wilderness Areas.
  - Impacts to Areas of Critical Environmental Concern (ACECs) associated with desert tortoise translocation.
- Visual Resources
  - Visual impacts on the SEZ and surrounding lands within the SEZ's viewshed as a result of the potential for major modification of the character of the existing landscape.
- Soils
  - Direct loss and cumulative impacts to soils and the ecosystem services soils provide, including the loss of desert pavement and cryptobiotic crusts.
- Water Resources
  - Groundwater withdrawal impacts to Garnet Basin could disrupt the groundwater flow patterns and adversely affect plant and/or animal communities on or near the SEZ, or springs in the vicinity of the SEZ.
- Land Use
  - There are existing ROWs and corridors that overlap with Invenergy Solar's ROW request.

1.7 Summary

This chapter has presented the purpose and need for action, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed Project. Chapter 2 provides a detailed description of the Proposed Action, including design features intended to avoid and minimize potential impacts which were developed in accordance with the Solar PEIS ROD and any additional design features and/or mitigation measures identified through this NEPA and decision-making process. The affected environment and the potential environmental impacts resulting from the implementation of the Proposed Action and the No Action Alternative are discussed in Chapter 3. The information in Chapter 3 tiers to the analysis in the Solar PEIS and incorporates by reference to the extent practicable to reduce paperwork and redundant analysis in the NEPA process. Chapter 4 includes an overview of the coordination, consultation, and public involvement that took place as part of the Solar PEIS for the Dry Lake SEZ as well as the additional activities undertaken for the Project.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

The BLM has implemented actions in support of U.S. renewable energy goals and objectives for solar energy development as described in its Solar PEIS and ROD. Through the Solar PEIS and Solar PEIS ROD, the BLM has established a comprehensive Solar Energy Program (i.e., the Western Solar Plan) that allows the permitting of future solar energy development projects on public lands in six southwestern states: Arizona, California, Colorado, Nevada, New Mexico, and Utah. As part of the Western Solar Plan, the BLM has identified specific locations on public lands that are well suited for utility-scale production of solar energy as SEZs. The final Dry Lake SEZ designation in the Draft Solar PEIS was approximately 15,000 acres but, in response to comments and in recognition of resource conflicts, the ROD ultimately designated only an approximately 5,700-acre SEZ, an area with the fewest resource conflicts.

The Western Solar Plan authorizes the BLM to resolve applicant competition for lands within a SEZ by using competitive bidding procedures through a public auction to select preferred applicants to submit ROW applications for solar energy projects. On June 30, 2014, the BLM held a competitive auction for six parcels of public land within the Dry Lake SEZ located in Clark County, Nevada. The BLM selected Invenergy Solar as one of three successful bidders to become a preferred applicant with the right to submit a ROW application for a solar energy project on Parcel One within this SEZ. Invenergy Solar's objective for the Project is to provide a source of environmentally clean, renewable electricity that helps fulfill the needs of national and state renewable energy policies.

The previous chapter presented the purpose of and need for the Proposed Action, as well as the preliminary issues and concerns identified as needing additional review. To meet the purpose of and need for the Proposed Action, and because the proposed Project is located in the BLM-approved Dry Lake SEZ, an area specifically identified for solar energy development, and an area which had an alternatives assessment completed as part of the Solar PEIS, the BLM has determined that only the Proposed Action and a No Action Alternative are needed for detailed analysis. Any remaining conflicts will be addressed through project design features and additional mitigation measures as identified in the SRMS if necessary. The potential environmental consequences from the Proposed Action and No Action Alternatives are analyzed in Chapter 3.

2.2 Proposed Action

2.2.1 Overview

The Applicant proposes to construct, operate, maintain, and decommission the Project, consisting of up to a 130-MW alternating current (MWac) solar PV power generating facility on approximately 715 acres of BLM-administered land located within Parcel One of the Dry Lake SEZ in Clark County, Nevada. Project components include on-site facilities, off-site facilities, and temporary facilities needed to construct the Project. The major on-site facilities comprise solar array blocks of PV modules, a substation, and operation and maintenance (O&M) facilities. The off-site facilities include a 3,500-foot (0.66-mile), 230-kilovolt (kV) generation tie transmission line (gen-tie line), access road, and electric distribution and communication lines. Temporary facilities, which would be removed at the end of the construction period, include mobilization, laydown, and construction areas. Power produced by the Project would be conveyed to the Nevada Power bulk transmission system via the gen-tie line, which would interconnect to NV Energy's existing Harry Allen Substation.

2.2.2 Project Location and Existing Land Use

The Project is located approximately 14 miles (23 km) northeast of the city of Las Vegas and south and approximately 8 miles (13 km) south and east of the Moapa River Indian Reservation in an unincorporated area of Clark County, Nevada. U.S. 93 is located on the western boundary of the Project and I-15 is located less than 2 miles (3 km) east of the Project. The NV Energy Harry Allen Substation and an NV Energy high-voltage transmission line are located immediately adjacent to the Project's southern boundary (Figure 2).

All lands for the proposed facilities are federal lands administered by the BLM under the Las Vegas RMP (BLM 1998). The Project is located within the boundaries of the Dry Lake SEZ (Parcel One), identified through an amendment to the Las Vegas RMP by the ROD for the Solar PEIS (BLM 2012a). Existing uses of the site are managed by the BLM in accordance with the Las Vegas RMP.

The Project site is located in Sections 33, 34, 35, and 36, Township 17 South, Range 63 East, Mount Diablo Meridian, and within Sections 3 and 4, Township 18 South, Range 63 East, Mount Diablo Meridian, Clark County, Nevada.

The Project, which would be built in phases, would produce up to 130 MW of electricity, using multiple arrays of fixed-tilt or single-axis tracking solar panels connected to electrical infrastructure. Phase I of the Project would consist of approximately 112 MW and Phase II would consist of approximately 18 MW. Because Phase II overlaps with NV Energy grants N-12873, N-82076, and N-74510, build-out of this Phase II area would require coordination with NV Energy to ensure avoidance of their existing facilities, as well as a letter of concurrence.

2.2.3 Key Project Elements

The Project would include the following key elements:

- A solar facility consisting of:
  - approximately 409,020 128-cell, 435-watt monocrystalline modules using single-axis trackers;
  - a 1.6-acre O&M building, and/or a control enclosure within solar facility;
  - interior access roads and a perimeter road;
  - collection system and power conversion stations;
  - on-site collector substation;
  - an aboveground water storage tank;
  - project security fencing; and
  - desert tortoise exclusion fencing.
- An approximately 3,575-foot-long, single-circuit, 230-kV gen-tie line to connect the on-site collector substation to the NV Energy Harry Allen Substation;
- Fiber-optic communications installed underground, or on overhead line along the Project gen-tie line;
- A distribution power line for construction and operation of the Project from existing NV Energy distribution nearby; and
- Drainage control structures.

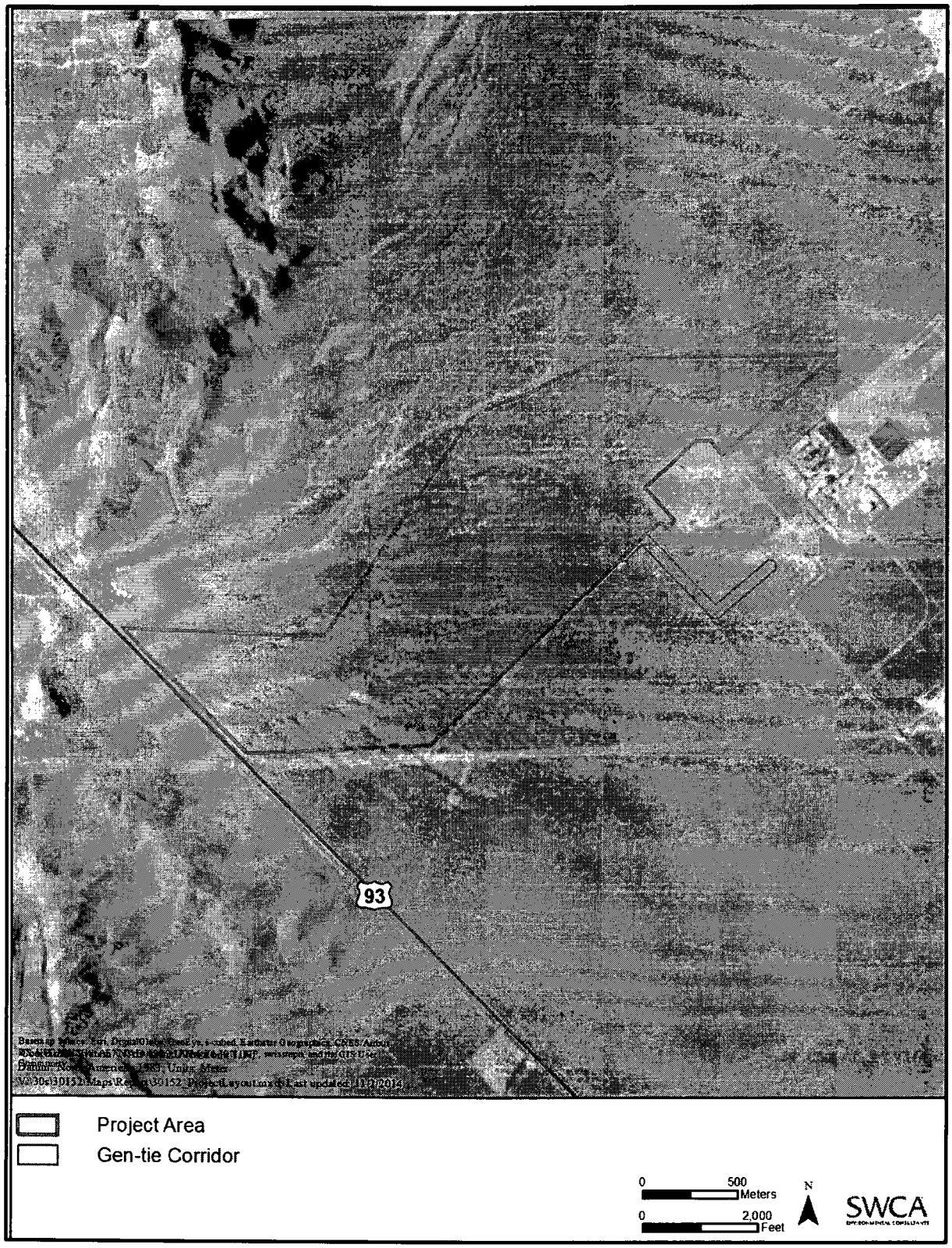

Figure 2. Project location.

Project construction would also require the following temporary facilities which would be located within the 715-acre solar facility footprint:

- An approximate 4-acre construction mobilization and laydown area; and
- Temporary generators to provide construction power.

2.2.4 Project Facilities

Within the 725-acre project area boundary, which includes the solar facility (715 acres), and gen-tie line and access road (10 acres), the Project would have short-term land disturbance effects during construction and long-term land disturbance effects during operations (Table 1). Any disturbed area that is not needed for operations would be reclaimed. The Project would generate up to 130 MW of electricity using multiple arrays of fixed-tilt or single-axis tracking solar panels connected to electrical infrastructure and transmitted via a gen-tie line to the interconnection point. Solar panels generate electricity using the photoelectric effect, whereby the cells that compose the panel receive the sun's radiation in the form of photons and release electrons into the conduction band. The capture of these free electrons produces an electrical current that can be collected and supplied to the electrical power grid. Table 1 provides a summary of project components and associated short-term and long-term disturbance.

Table 1. Summary of Long-Term and Short-Term Disturbance for the Project

Disturbance Type	Acres of Disturbance	Notes
Long-Term Disturbance		
Solar Facility	715	130 MW PV Solar Facility
Communication Line	0	Buried with Gen-tie line road
Substation	0	5.8 acres inside Solar Facility
Operation and Maintenance	0	1.6 acres inside Solar Facility
Gen-tie Line Access Road	1.6	Up to 20-foot width along 3,575-foot length of gen-tie line
Gen-tie Line Pole Pads	<0.1	3-foot-radius permanent footprint on 10 H-frame poles (20 footprints)
Operations Facilities	0	Up to 1,200 square feet inside Solar Facility
Total	**716.7 (rounded to 717)**	
Short-Term Disturbance		
Laydown area	0	4 acres inside Solar Facility
Pole construction area	7.2	100-foot-radius per pole area (10 poles)
Pull sites	0.9	200 × 100 feet per pull site (5 pull sites total, 3 inside solar facility)
Total	**8.1 (rounded to 8)**	

2.2.4.1 SOLAR PANEL ARRAYS

The solar panel specification analyzed in this EA is a 128-cell, 435-watt monocrystalline module using a single-axis tracker. Each module measures 6.78 × 3.43 feet and would be placed in a rack with 40 other modules. The modules would be mounted on a single-axis tracking system that rotates 45 degrees to the east and west. The modules and tracking assembly would have a ground clearance of approximately 2 feet when rotated, and approximately 5 feet when flat. Each rack would be supported by steel posts; post depth would vary depending on soil conditions, but are typically 10 to 15 feet below the surface. If soil

conditions require it, concrete foundations would be used. Approximately 409,020 modules would be placed along with perimeter and interior access roads, inverters, and transformers to form approximately eighty-four 1.0- to 1.5-MWac blocks (each block would measure approximately 720 × 470 feet). Racks of modules would be installed with enough spacing between rows to minimize row-to-row shading.
The power would be transmitted from the solar array through electrical infrastructure to the collector substation.

2.2.4.2 ELECTRICAL COLLECTION AND TRANSMISSION SYSTEM

Solar modules would be connected in series to form strings, and electricity from these strings would be aggregated in combiner boxes. A single circuit would then leave each combiner box, which is installed underground and connects to the inverter. The current produced by solar modules is in the form of direct current (DC). In order to be sent to the electrical grid, the DC current must be converted into alternating current (AC) power, and inverters serve this function. The conversion is accomplished by rapidly switching the DC power supply. By varying the length of time that the switch is on, as well as the polarity, the positive and negative swells of an AC wave are created. This waveform is then smoothed with an output filter. Inverters employ several advanced control systems, switching algorithms, and ancillary services for both the input and output stages. For the input stage, the inverters can manipulate the DC voltage to ensure maximum power harvest of input, and on the output various sensors ensure that AC power production is in accordance with regulatory requirements. The Project design includes the use of 167 shape memory alloy (SMA) Cathodic Protection 800 US inverters. The SMA inverter is designed to fully comply with the applicable requirements of the National Electrical Code and Institute of Electrical and Electronics Engineers standards.

The inverter AC output voltage (800 volts) would then be stepped up to a higher voltage (34.5 kV) using pad-mounted transformers. Invenergy Solar has used Prolec GE transformers at many of its facilities and would use these or a comparable transformer for the Project. Underground collection cables, buried to a minimum of 3 feet, would connect the electrical output to the Project collector substation. The cables would be arranged in several branch circuits, each circuit consisting of 34.5-kV three triplexed single-conductor cables with PVC jackets that connect groups of solar modules
to an open-air isolation switch in the collector substation.

At the Project collector substation, the voltage would again be stepped up (from 34.5 to 230 kV) to prepare it to connect to the grid at the Harry Allen Substation. The collector substation would include several 34.5-kV branch circuit breakers in combination with open-air type isolation switches to connect the collection system feeders to the main 34.5-kV substation bus, a 34.5-kV main bus open-air isolation switch, a 34.5- to 230-kV step-up transformer, and a 230-kV circuit breaker and open-air isolation switch. The collector substation would also include protective relay and metering equipment, utility and customer revenue metering, and a 34.5-kV to 480-volt station service transformer to provide power to the collector substation service load and the control enclosure.

The power output would then flow through the 230-kV isolation switch at the Project collector substation onto an approximately 3,575-foot-long, single-circuit, 230-kV gen-tie line to the point of interconnection at the nearby Harry Allen substation. The gen-tie line would be mounted on approximately 10 wooden H-frame or monopole structures which would be between 40 and 90 feet tall. Each pole on the H-frame would have an approximate 3-foot-radius footprint. The BLM may assign NV Energy a ROW grant for portions of the Project collector substation and gen-tie line.

2.2.4.3 TELECOMMUNICATIONS

Communications with NV Energy during the operations phase of the Project would be done using a primary and secondary fiber-optic cable, which would either be buried within the gen-tie line access road footprint, or would be integrated with the gen-tie line. Coordination with NV Energy prior to construction would be required to determine the specific requirements for the NV Energy communication system (including fiber counts and types). There would also be a Supervisory Control and Data Acquisition (SCADA) system that would allow Invenergy Solar on-site and remote personnel to operate the Project. The SCADA system allows for controlling and monitoring the facility as a whole from a central host computer or a remote personal computer. The SCADA system transmits critical information from the facility via fiber optics to a central control server located in the O&M building and to all other locations as required.

2.2.4.4 SITE SECURITY AND FENCING

An approximately 6-foot-high chain-link fence would be installed around facilities as they are constructed. Access to the site would be controlled by gates. High-voltage equipment would be separately fenced with warning signage. Approved tortoise fencing would also be installed adjacent to or outside the security fence to prevent desert tortoise from entering the project area.

2.2.4.5 OPERATION AND MAINTENANCE FACILITIES

The Project would have an O&M building, and/or a control enclosure (Operations Facilities) that would sit either at the west end of the site, adjacent to U.S. 93, or adjacent to the Project substation, for the purpose of storing the protective relay and communications equipment. These Operations Facilities would be approximately 1.6 acres within the solar facility and would also store potable water and Project-specific documents for technicians. The Operations Facilities would be custom designed, weatherproof, and would be approximately 300 to 1,200 square feet. The Operations Facilities would have fire and safety equipment such as smoke detectors, fire extinguishers, and an eye-wash station. They would also be equipped with a heating and ventilation and air conditioning (HVAC) system.

Portable toilets would be located adjacent to the Operations Facilities to be used by maintenance technicians and visitors. Alternatively, the Operations Facilities would include a septic tank and leach field system for sanitary streams. When needed, septic tank contents or portable toilet contents would be removed from the site by a sanitary service. Additionally, an approximate 300-square-foot storage trailer would be located next to the Operations Facilities to store spare parts, consumables, and tools for ongoing operations and maintenance. Maintenance trucks and personal vehicles would park adjacent to the Operations Facilities.

2.2.4.6 ROAD SYSTEM

Primary access for equipment deliveries and workers would be via U.S. 93 along the southwest border of the Dry Lake SEZ. New roads within the 715-acre solar facility footprint would facilitate access within the project area. The roads would be native graded material, approximately 16 to 20 feet wide and would be adequate to support the size and weight of construction, maintenance, and rescue vehicles. Signs reminding construction and maintenance personnel to maintain low vehicle speeds would be posted throughout the project area in order to minimize dust and promote safety. Two tortoise guards would be installed in the tortoise fencing, one at the primary access for equipment deliveries, and one at the secondary access where the proposed gen-tie line exits the project area.

A 200-foot-wide temporary ROW would be needed for the approximately 3,575-foot-long gen-tie line. Within that ROW, a 20-foot-wide construction access road would be designated and constructed for

access. After construction, the permanent gen-tie line ROW would be approximately 100 feet wide, and access would be along the road during infrequent maintenance and inspection events.

2.2.4.7 TEMPORARY CONSTRUCTION WORKSPACE, YARDS, AND LAYDOWN AREAS

An approximate 4-acre laydown yard for staging and storage during construction would be located at the west end of the project area, adjacent to U.S. 93 within the 715-acre solar facility footprint. In addition to providing a temporary storage space for equipment and vehicles during construction, the laydown yard would be used to house temporary office trailers during construction for project management purposes. Portable toilets would be used by construction workers and visitors.

2.2.4.8 LIGHTING

Motion-activated lighting would be installed on the control enclosure, on the access gates, and throughout the solar arrays for access during non-daylight hours. A motion-activated security camera system would be installed with the lighting to monitor the collector substation, control enclosure, and the solar arrays. During construction, temporary lighting facilities may be used if necessary. Invenergy Solar would prepare a BLM-approved Lighting Management Plan.

2.2.4.9 WASTE AND HAZARDOUS MATERIALS MANAGEMENT

Locally generated trash during construction would be hauled off-site for disposal. There are two main sources of hazardous materials: pad-mounted transformers and inverters. Each pad-mounted transformer contains approximately 500 gallons of oil, and each inverter cooling system contains approximately 11 gallons of ethylene glycol/water mixture, totaling 43,900 gallons of hazardous substance pursuant to 40 CFR 302.4. These hazardous substances would be managed in accordance with applicable state and federal regulations.

Section 40 CFR 112 requires that a Spill Prevention Control and Countermeasure (SPCC) plan be prepared for a project that stores oil in quantities greater than 1,320 gallons aboveground and/or 42,000 gallons belowground. Therefore, an SPCC would be prepared for the Project to address any spills that could occur, following guidelines in 40 CFR 112. The engineering, procurement, and construction (EPC) contractor would also develop an SPCC to comply with Invenergy Solar standards that would address any spills during the construction period.

2.2.4.10 STORMWATER MANAGEMENT

Site preparation for construction would include cut-and-fill grading and placement, and compaction of structural fill to serve as a sub-base. Drainage improvements such as channels and basins would be constructed to maintain existing drainage flow patterns and allow for the safe operation and maintenance of the facilities.

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and submitted to the Nevada Department of Conservation and Natural Resources Division of Environmental Protection to obtain coverage by Stormwater General Permit (NVR100000). The construction SWPPP would be prepared in accordance with standard engineering practices and would include a description of best management practices (BMPs), good housekeeping, and structural controls to minimize impacts on water quality during construction. Structural controls implemented would meet the requirements of this permit and the design requirements of the Clark County Regional Flood Control District.

2.2.4.11 VEGETATION MANAGEMENT

Any new infestations of non-native, invasive plant species in the project area would be treated promptly per requirements of a BLM-approved Integrated Weed Management Plan. Invenergy Solar proposes to reduce and control invasive plants within the project area by using herbicides in combination with manual methods to lessen the potential for the dispersal or increased abundance of existing and any new non-native, invasive plant species. Prior to any herbicide application, Invenergy Solar would prepare a pesticide use proposal for submittal to the BLM using those herbicides as described in the BLM's PEIS for vegetation treatments using herbicides on BLM lands (BLM 2007a). The PEIS addresses human health and ecological risk for the proposed use of chemical herbicides on public lands within 17 western states, including Nevada. It is anticipated that this would include the use of glyphosate (as found in Roundup PRO® and Aquamaster®).

During construction and O&M phases of the project there is also the potential for undesirable invasive insect infestations in project buildings and structures. Invenergy Solar proposes to control undesirable insect infestations by using pesticides. Prior to any use of pesticides, Invenergy Solar would submit a pesticide use proposal to the BLM proposing protocols and chemicals that can be used in the event that infestations arise during activities associated with the Project. It is anticipated that this would include the use of pesticides including Benzeneacetate and Bifenthrin. Any necessary pesticide use would be restricted to the insides, outsides, and immediate vicinity of small, enclosed buildings, trailers, O&M buildings, and shelters. Pesticide bait traps would be restricted to use inside buildings. In addition, insecticides would not be stored at the facility and would be brought on-site during application periods.

2.2.5 Preconstruction and Construction Activities

2.2.5.1 OVERVIEW

An overview of construction activities necessary for the development of a PV solar energy project is described in BLM's Solar PEIS (BLM and DOE 2012). The following preconstruction and construction activities are specifically relevant to the proposed Project.

For purposes of analysis, it is assumed that both phases of the Project would be built concurrently and that the entire 715-acre project area would be disturbed. An EPC contractor would be selected to complete construction of the Project. Construction of specific project components would be completed by subcontractors under the direction of the EPC contractor and Invenergy Solar. The EPC contractor would prepare a construction plan that it and its subcontractors would follow, that would provide detailed guidance on project design, construction process, safety, permitting, schedule, and other related construction items.

2.2.5.2 SITE PREPARATION

Several activities must be completed prior to the commercial operation date. The majority of the activities relate to equipment ordering lead time, as well as design and construction of the facility. Preconstruction, construction, and post-construction activities, some of which would occur concurrently, include:

- geotechnical investigation for proper foundation design and materials;
- finalize Project design;
- order all necessary components, including solar panels, inverters, and pad-mounted transformers;
- site surveying and staking to establish locations of structures and roadways;
- install tortoise fence and complete tortoise clearance surveys;

- vegetation removal, grading and excavation;
- construct solar arrays;
- install underground cables;
- construct underground collection system;
- design and construct Project collector substation;
- design and construct gen-tie line;
- design and construct Operations Facilities;
- commission of modules and inverters; and
- commencement of commercial operation.

On-site communications during the construction phase would be accomplished with cellular telephones and two-way radios. Air horns may also be used for emergency communications as necessary.

2.2.5.3 GEOTECHNICAL INVESTIGATION

To develop a geological profile of the area underlying the Project site, Invenergy Solar would conduct a geotechnical investigation prior to construction to determine the engineering characteristics of local soils and geology. In addition, it would allow the identification of Project-specific construction issues and to inform final project design and necessary BMPs. Disturbance associated with vehicle travel and drilling activities in support of the geotechnical investigations would occur on land in the project area identified for long-term disturbance.

2.2.5.4 SURVEYING AND STAKING

Prior to construction, a surveyor would obtain or calculate benchmark data, grades, and alignment of facilities based on information provided in the site plan. Benchmark data, grades, and alignment of facilities would be marked via control staking. The surveyor would reestablish and set additional control staking during construction. Prior to commencement of earth-disturbing activity, Invenergy Solar (or its selected contractor) would identify any sensitive resources, such as cactus species, migratory bird nests, or BLM sensitive species within the project area. Sensitive resources would be marked using a global positioning system (GPS) unit, flagging, or other non-destructive method. Sensitive resources would be mitigated and/or removed from the project area.

2.2.5.5 CLEARANCE SURVEYS AND FENCING

Tortoise exclusion fencing would be installed around the Project prior to desert tortoise clearance surveys being conducted. Two tortoise guards would be installed, one at the primary access for equipment deliveries, and one at the secondary access where the proposed gen-tie line exits the solar facility project area. In addition, geotechnical investigations may occur prior to desert tortoise clearance surveys being completed. It is anticipated that these activities would occur under a limited Notice to Proceed and would require authorized desert tortoise biologists and monitors to be present. No additional construction activities would begin until 100-percent (%) clearance surveys for desert tortoise are completed. Desert tortoises would be relocated from the Project in accordance with an approved Desert Tortoise Translocation Plan for the Dry Lake SEZ. Following installation of the desert tortoise exclusion fence around the 715-acre solar facility project area, an Authorized Biologist would supervise the performance of a full-clearance survey of the fenced area, in accordance with current USFWS desert tortoise clearance survey protocol. Tortoise would be relocated to a translocation area identified in the approved Desert Tortoise Translocation Plan.

2.2.5.6 VEGETATION REMOVAL AND TREATMENT

Once site preparation is complete, the 715-acre solar facility footprint would be cleared and grubbed of vegetation and debris using D7 or similar bulldozers. Cleared vegetation and debris suitable for compaction would be incorporated and/or stockpiled for later use, while unsuitable materials, such as large rocks and boulders, would be stockpiled on-site. If there is a need for stockpiled materials to be hauled off-site and disposed of, a mineral material contract, free use permit, or material site ROW would be requested from the BLM. Cactus and yucca present within the permanent project area would be salvaged and disposed or otherwise relocated prior to construction commencement according to the site prescriptions as determined and required by the BLM in a Restoration Plan. Cactus and yucca present within temporary work areas would be left in place and avoided to the extent possible, or otherwise salvaged and maintained in temporary nurseries on-site until construction is complete, to be replanted back in place for restoration purposes as determined and required by the Restoration Plan. Reseeding temporary disturbance areas would be accomplished as required in the Restoration Plan.

2.2.5.7 SITE CLEARING, GRADING, AND EXCAVATION

Grading may require both excavation and soil compaction in order to achieve desired grades and elevations and ensure proper soil compaction as identified in the detailed design. Grading would be most extensive in areas for the access roads, control enclosure, collector substation, and laydown yard. Grading within the 715-acre solar facility footprint would address drainage, erosion control, and slope, and would be minimized to the extent practicable. Stockpiling and grading would require the use of backhoes, graders, and rollers/compactors. Excavation for utility lines and support structure foundations would be completed with truck-mounted drill rigs, backhoes, and trenching machines.

2.2.5.8 GRAVEL, AGGREGATE, AND CONCRETE NEEDS AND SOURCES

The quantities of construction materials required for the Project, such as gravel, aggregate (or road base), asphalt, and concrete, are dependent on the geotechnical analysis and final arrangements and layouts. These layouts would be part of the detailed design, and the material takeoffs would be estimated at that stage of the project design.

2.2.5.9 WATER USE AND DUST CONTROL

During construction, the Project would require approximately 350 gallons of potable water per day for use as drinking water. During operations, maintenance workers would bring potable drinking water on-site as necessary for consumption during maintenance activities. This water would be stored in the office trailers during construction.

Some water would be needed for site preparation and grading activities. During earthwork for the grading of access roads and other project components, the main use of water is for compaction and dust control. Some water would be required for reclamation and for preparation of any concrete required for foundations. The total amount of water needed during construction would be approximately 140 million gallons (430 acre-feet).

In addition to using water for dust control, the BLM has previously allowed the use of several dust palliatives on other project within the Southern Nevada District. If dust palliatives are used in place of water for the Project, the total amount of water needed during construction would be reduced. The Applicant may opt to use such palliatives, as authorized by the BLM for the Project. The soil binder/dust palliatives that are proposed for the Project, and for which BLM has previously allowed are:

- Road Bond 1000
- For roads and heavy traffic areas: Soil Cement

- For non-traffic areas on finer soils: Formulated Soil Binder FSB 1000
- For non-traffic areas on sandier/rockier soils: Plas-Tex

All water would be brought in from existing off-site sources in the Las Vegas Valley as needed. Water for site preparation, grading, concrete, and dust control would be brought by 3,500-gallon water trucks, whereas potable water would be transported in 1- to 10-gallon containers.

2.2.5.10 PROJECT LIGHTING

Invenergy Solar would incorporate measures to reduce night lighting into the Project's lighting systems. Night lighting used during construction, operation, and maintenance of the Project would be controlled by using directed lighting, shielding, and/or reduced lumen intensity. Permanent lighting at the O&M building would be provided. Other structures within the solar facility would have exterior motion-sensor lighting. Invenergy Solar would prepare a Lighting Management Plan.

2.2.5.11 SOLAR ARRAY ASSEMBLY AND CONSTRUCTION

Solar array construction would begin with the installation support structures and foundations. The final support structure design is unknown at this time and would be determined by results of the geotechnical survey, the solar technology, and EPC contractor selected to complete construction.

Once foundations and support structures are in place, tracker assemblies would be constructed on-site and installed on the support structures. Final assembly of the trackers onto the support structures would require a variety of heavy equipment, including small cranes, tractors, welding machines, and forklifts.

2.2.5.12 ELECTRICAL COLLECTION AND TRANSMISSION SYSTEM CONSTRUCTION

2.2.5.12.1 Collector Substation

Installation of the collector substation would be done concurrently with the installation of solar trackers. The collector substation would be 5.8 acres, located entirely within the fenced 715-acre solar facility. Construction of the substation would begin with clearing of vegetation and organic material from the site. The site would then be graded to subgrade elevation. Structural footings and underground utilities, along with electrical conduit and grounding grid, would be installed, followed by aboveground structures and equipment. The site would be finish-graded and gravel-surfaced.

2.2.5.12.2 Project Generation-Tie Transmission Line

Installation of the gen-tie line would begin after the solar array structural installation is complete. Connection to the electrical grid would be made at the NV Energy Harry Allen Substation via the Project 230-kV gen-tie line. A 200-foot-wide temporary ROW would be needed for the approximately 3,575-foot-long gen-tie line outside the 715-acre solar facility. Within that ROW, up to 10 wooden H-frame or monopole structures would be erected, and a 20-foot-wide access road would be constructed along the length of the gen-tie line. Each structure would require an approximate 100-foot-radius area for construction. Following construction, the permanent disturbance would be approximately 3 feet around each pole, and the temporary disturbance area would be reclaimed. The temporary disturbance for the project gen-tie line would be 8.1 acres. The permanent disturbance would be less than 0.1 acre. The permanent disturbance for the access road would be 1.6 acres. Additionally, all necessary pulling and tensioning sites would be within the temporary 200-foot ROW and would be reclaimed following construction.

2.2.5.13 ACCESS ROAD CONSTRUCTION

All access roads would incorporate existing BLM standards regarding road design, construction, and maintenance such as those described in BLM Manual 9113 (BLM 1985), and the *Surface Operating Standards for Oil and Gas Exploration and Development* (i.e., the Gold Book) (U.S. Department of the Interior and U.S. Department of Agriculture 2007). All roads would be built at ground level. Additionally, any public access roads would conform to all applicable county road regulations, as well as the Nevada State Fire Marshal's fire safety regulations. Roads would not be closed to the public except during construction for safety purposes.

2.2.5.14 ON-SITE BUILDING CONSTRUCTION

Concrete foundations would be poured to support the O&M building. The O&M building is anticipated to be a modular steel building that would be erected on-site. An area adjacent to the building would be paved for parking and 4 inches of aggregate would be installed around the unpaved portion of the O&M area.

2.2.5.15 SITE STABILIZATION, PROTECTION, AND RECLAMATION

The permanent site facility would be designed and constructed according to the civil engineering design to ensure the site is stabilized and protected by adequate slopes, cover, and drainage features. All temporary work areas would be decompacted, recontoured, and closed according to BLM prescriptions as identified in a Restoration Plan to be developed in coordination with the BLM. Any pre-existing access roads that are improved and new access roads that are constructed for temporary construction access would be restored as identified in the Restoration Plan. Survey stakes, flagging, and other temporary identification markers would be removed. Reclamation would also include installation of cross drains for erosion control, as necessary.

Topsoil will be salvaged prior to construction in accordance with BLM recommendations and re-spread during reclamation. Invenergy Solar will prepare a SWPPP as required and will include standard sediment control devices to minimize soil erosion during construction and during O&M. Soils will be stabilized by mulching or otherwise covering exposed surfaces and by using permanent and temporary erosion-control devices such as water bars, wing ditches, berms, silt fences, straw bales, netting, soil stabilizers, check dams, etc., as needed, to stabilize surfaces.

After construction, any area that was temporarily disturbed and no longer needed for ongoing operations would be reclaimed using a seed and plant mix as approved by the BLM and in accordance with a forthcoming Decommissioning and Site Reclamation Plan.

2.2.5.16 WORKFORCE, SCHEDULE, AND EQUIPMENT AND MATERIALS

Approximately 350 workers per day would be required for construction of the Project. Construction personnel would be from both the local labor force and from outside regions, with an emphasis placed on using local labor, contractors, and suppliers when feasible. Temporary facilities, including office trailers and portable toilets, would be installed in the 4-acre laydown yard. No more than 175 employee vehicles are anticipated at the project area at any one time. Construction would take approximately 18 months and would generally occur between 7 a.m. and 7 p.m., Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Anticipated construction equipment for the Project is provided in Table 2.

Table 2. Construction Equipment Anticipated to be Used on the Project

Equipment	Use
¾-ton and 1-ton pick-up trucks	Transporting construction personnel
Flatbed trucks; flatbed boom trucks	Hauling and unloading materials
Backhoes	Excavating and loading
Bulldozers	Excavating, grading, and reclaiming
Compactors	Site leveling
Concrete trucks/pumps	Delivering and pouring concrete
Cranes	Loading, unloading, and lifting materials and erecting structures
Diesel generator	For on-site construction power (temporary)
Drum rollers	Smooth-rolling graded surfaces
Dump trucks	Hauling excavated materials and importing backfill
Excavators	Excavating trenches and foundations
Forklifts	Transporting and lifting materials
Foundation drills	Drilling concrete foundations
Fuel and equipment fluid trucks	Refueling and maintaining vehicles
Graders	Grading facility and roads
Lifts	Elevating personnel and equipment
Loaders	Excavating and loading soil
Scrapers	Grading
Tractors	Earthmoving
Water pulls	Moisture conditioning and dust control
Water trucks	Moisture conditioning and dust control
Welding machines	Welding structures

2.2.5.17 CONSTRUCTION TRAFFIC

During construction, several types of light and medium construction vehicles would travel to and from the site. Invenergy Solar estimates that there would be approximately 100 truck trips per day in the area during peak construction periods. The highest traffic volume would occur during the peak construction periods when the rack foundation posts, rack, and module assembly are taking place concurrently. Oversize and overweight loads are not expected.

2.2.5.18 CONSTRUCTION POWER

Invenergy Solar is proposing to tap into NV Energy's distribution system either at U.S. 93, or one of the existing distribution lines near the Harry Allen Station. Until the Project becomes operational, construction activities would utilize a temporary power source.

2.2.6 Operations and Maintenance

2.2.6.1 OPERATION AND MAINTENANCE FACILITY NEEDS

The Operations Facilities and associated facilities (i.e., parking, storage trailer, and portable toilets) described above would accommodate all operation and maintenance needs for the Project.

2.2.6.2 MAINTENANCE ACTIVITIES, INCLUDING MIRROR WASHING AND ROAD MAINTENANCE

On-site maintenance activities would include inspections, planned and unplanned maintenance, and panel washing. Inspections of the Project's electrical facilities, roads, and grounds would be conducted a minimum of 1 day per month. The equipment is modular and can be easily removed and replaced if necessary. Given the relatively small size, modules can be easily picked up with a small loader and placed on a flatbed truck. Preventative maintenance on the solar arrays and inverters would be conducted a minimum of twice per year. Panel washings would occur annually to increase the average optical transmittance of the flat panel surface. The annual demand for water to wash the panels would be approximately 350,000 gallons (1 acre-foot). It is anticipated this water would be stored at the Operations Facilities in an on-site storage tank. Some minor road work and weed control would be performed as needed. During the operations phase, the peak traffic time would be during water haul-truck trips for panel washing, during which approximately 200 truck trips would be required over the course of 30 days annually.

2.2.6.3 OPERATIONS WORKFORCE AND EQUIPMENT

The Project would utilize up to six full-time, on-site staff, and would also be monitored by Invenergy Solar 24 hours per day, 7 days per week via the SCADA system. A minimum of two maintenance technicians would be dispatched during inspections and unplanned and planned maintenance. A special crew may be deployed for panel washing, which would consist of four individuals. The technicians and all contractors during the operations phase would be under the supervision of a regional Invenergy Solar O&M manager. Invenergy Solar provides competitive salaries, benefits, and training and strives to hire locally when possible.

Maintenance equipment would be stored on-site in the Operations Facilities. Any additional equipment and tools needed would be brought by technicians during regular inspection or maintenance visits.

2.2.6.4 FIRE PROTECTION

Vegetation in the project area is sparse enough that the risk of wildfire is relatively low. The solar modules are designed to be resistant to fire and the racks are constructed of non-combustible steel and aluminum. The solar panels and other electrical equipment would meet applicable Underwriters Laboratories and International Electrotechnical Commission (IEC) ratings for their resistance to fire. Specifically, the modules are IEC 61730 certified, which requires tests to assess the potential fire hazard due to operation of a module or failure of its components. Tests are conducted associated with temperature, hot spots, fire resistance bypass diode thermal, and reverse current overload in order to certify the panels.

A Fire Management Plan would be prepared to minimize the occurrence of unwanted human-caused and naturally caused fires. The plan would describe an emergency notification procedure, site evacuation process, and fire prevention procedures. Fire extinguishers would be available in the control enclosure and at strategic locations throughout the Project. Access roads within the project area would be approximately 16 to 20 feet wide and would be adequate to allow rescue vehicles access.

2.2.6.5 HEALTH AND SAFETY PROGRAM

Potential safety issues for the Project include safe work practices, site security, emergency response procedures, fire control, heavy equipment use and transportation, traffic control, and others. A detailed and complete health and safety program that meets all requirements under the federal Occupational Safety and Health Administration regulations would be developed for the protection of both workers and the

general public during the construction and operational phases of the Project. The health and safety program would be developed, implemented, and administered by the EPC.

2.2.6.6 COMMUNICATION SYSTEM

Coordination with NV Energy prior to construction would be required to determine the specific requirements for the NV Energy communication system (including fiber counts and types). Communications with NV Energy during the operations phase of the Project would be done using a primary and secondary fiber-optic cable, which would either be buried or would be integrated with the gen-tie line and would be 3,575 feet long. There would also be a SCADA system that would allow Invenergy Solar on-site and remote personnel to operate the Project.

2.2.7 Decommissioning and Site Reclamation

At the end of the useful life of the Project, or upon the expiration or termination of the ROW grant, whichever comes first, the solar panels and all ancillary equipment and facilities (including control enclosure, portable toilets, collector substation, and gen-tie line) would be removed from the site. Any support structures would be demolished and all debris would be removed. Foundations for the solar modules and collector substation facilities would be removed to 3 feet below ground surface. After removal of all equipment and structures, the ground and roads would be smoothed to original slopes and contours by disking and planted with a seed and plant mix as approved by the BLM. A final Facility Decommissioning Plan would be developed consistent with BLM policy and objectives at that time, as approved by the BLM. The BMPs and stipulations that have been developed for construction activities would be applied to similar activities during decommissioning.

2.2.8 Permits and Approvals

Table 3 provides a list of federal, state, and local permits, authorizations, or consultations that may be required for the Proposed Action.

Table 3. Permits, Certifications, and Authorizations

Authorization	Status	Statutory Reference	Permit or Authorization Trigger
Federal			
BLM ROW	Submitted ROW application in July 2014.	Federal Land Policy and Management Act of 1976 (Public Law [PL] 94-579; 43 USC 1761–1771; 43 CFR 2800); NEPA (PL 91-190, 42 USC 4321–4347, January 1, 1970, as amended by PL 94-52, July 3, 1975; PL 94-83, August 9, 1975; and PL 97-258, 4[b], September 13, 1982)	Federal land, federal permit
BLM National Historic Preservation Act Compliance	Completed as part of the Solar PEIS.	National Historic Preservation Act (36 CFR 800)	Cultural resources on federal land that are eligible for listing on the National Register of Historic Places
Endangered Species Act	Desert tortoise is present; surveys will be conducted during the fall survey period.	Endangered Species Act (PL 93-205, as amended by PL 100-478 [16 USC 1531, et seq.])	Section 7 consultation

Table 3. Permits, Certifications, and Authorizations (Continued)

Authorization	Status	Statutory Reference	Permit or Authorization Trigger
USFWS Migratory Bird Treaty Act	No project-specific surveys completed to date, however, the BLM considers Great Basin Bird Observatory data from the area acceptable.	16 USC 703–711; 50 CFR Subchapter B	Potential to take migratory birds. An incidental take permit is not available; however, the USFWS recommends preparation of a BBCS to inform the decision-making process
Clean Water Act	No waters of the U.S. or wetlands have been identified.	Clean Water Act Section 404	Placement of dredged or fill materials into waters of the U.S. or wetlands requires a federal permit
State			
Nevada State Historic Preservation Office (SHPO)	SHPO concurrence has been already been obtained during completion of the Solar PEIS and no additional SHPO concurrence will be required.		Consultation required under 36 CFR 800
Nevada Department of Transportation ROW Occupancy Permit	Permit will be obtained prior to commencement of construction.	Nevada Revised Statutes (NRS) 408.423, 408.210, Nevada Administrative Code 408	Construction within a Nevada Department of Transportation ROW
Nevada Department of Public Safety Uniform Permit (for Transportation of Hazardous Materials)	Permit will be obtained prior to commencement of construction.	Nevada Administrative Code 459.979	Transportation of hazardous materials in a vehicle on a public highway
Utility Environmental Protection Act, Permit to Construct	Permit will be obtained prior to commencement of construction.	NRS 704.820 to 704.900	Construction of energy-generating facility with nameplate capacity >70 MW, and/or transmission lines >200 kV
County			
Dust Control Permit	Permit will be obtained prior to commencement of construction.	Clark County Air Quality Regulations. Clean Air Act of 1977 and amendments (NRS 321.001, 40 CFR Subpart C, 42 USC 7408–7409)	Construction activities impacting greater than 0.25 acre
Grading Permit	Permit will be obtained prior to commencement of construction.	Clark County Title 30.32.040	Grading activities in Clark County
Building Permit	Permit will be obtained prior to commencement of construction.	Clark County Title 30.32.030	Construction of a building in Clark County
Federal Emergency Management Agency Map Review and Clark County Regional Flood Control District Plan Compliance	Study will be completed prior to commencement of construction.	Clark County Regional Flood Control District Uniform Regulations for Control of Drainage	Requires an approved drainage study for sites associated with construction of a new facility requiring more than 2 acres within a Clark County, Nevada, ROW

2.2.9 Protective Measures

The Solar PEIS established a number of requisite design features that will be incorporated as needed into the Project. All appropriate design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2

of Appendix A in the PEIS (BLM and DOE 2012) would be implemented. These design features and how they have been addressed are summarized in Table 4.

Table 4. Dry Lake Programmatic Design Features

Resource Type	Design Feature	Where Addressed	How Addressed
Lands and Realty	LR1-1; LR2-1	EA Section 3.15	Invenergy Solar has worked with the BLM to identify potential land use conflicts. Invenergy Solar is having ongoing communications with current ROW holders in the project area. Impacts are evaluated in this EA.
Specially Designated Areas and Lands with Wilderness Characteristics	LWC1-1; LWC2-1	EA Section 3.1	The project area does not include specially designated areas or contain lands with wilderness characteristics.
Rangeland Resources – Grazing	RG1-1; RG2-1	EA Section 3.1	There are no grazing activities in the project area.
Wild Horses and Burros	WHB1-1; WHB2-1	EA Section 3.1	There are no wild horse or burro herd areas in the project area.
Wildland Fire	WF1-1; WF2-1	EA Section 2.2.6.4	Invenergy Solar will prepare a Fire Management Plan. Invenergy Solar will prepare an Integrated Weed Management Plan. A Worker Environmental Awareness Plan approved by the BLM will be prepared and provided to Project employees.
Recreation	R1-1; R2-1	EA Section 3.17	There are no recreation resources in the project area. The project area has been sited to ensure public access is not restricted to lands with recreational opportunities. Impacts are evaluated in this EA.
Military and Civilian Aviation	MCA1-1	EA Section 3.16	The project does not include structures greater than 200 feet and is not located under any Military Operating Airspace. Impacts are evaluated in this EA.
Soil Resources and Geologic Hazards	SR1-1; SR2-1; SR3-2; SR4-2; SR4-3; SR3-1	EA Sections 3.13 and 3.14	Invenergy Solar will conduct a geotechnical investigation to determine the characteristics of local soils and geology. Invenergy Solar will prepare the following plans: • Stormwater Pollution Prevention Plan • Spill Response Plan • Facility Decommissioning Plan Impacts are evaluated in this EA.
Mineral Resources	MR1-1; MMR1-2; MR2-1	EA Section 3.13	There are no mining claims, mineral claims, or mineral leases in the project area.
Water Resources	WR1-1; WR1-2; WR1-3; WR1-4; WR2-1;WR3-1; WR4-1	EA Section 3.22	Invenergy Solar has designed the Project to avoid using on-site groundwater. The project area avoids all surface waters. Invenergy Solar will prepare the following plans: • Site Drainage Plan • Stormwater Pollution Prevention Plan

Table 4. Dry Lake Programmatic Design Features (Continued)

Resource Type	Design Feature	Where Addressed	How Addressed
Ecological Resources	ER1-1; ER2-1; ER3-1;ER3-2;ER4-1	EA Sections 3.7, 3.8, 3.9, 3.10, 3.11, and 3.12	Invenergy Solar has consulted with the BLM and other agencies early in the process to ensure compliance with regulations that address the protection of wildlife and plant resources. Invenergy Solar will prepare the following plans: • Desert Tortoise Translocation Plan • Bird and Bat Conservation Strategy • Raven Management Plan • Integrated Weed Management Plan • Facility Decommissioning Plan • A Worker Environmental Awareness Plan approved by the BLM will be prepared and provided to Project employees. Impacts are evaluated in this EA.
Air Quality and Climate	AQC1-1; AQC2-1; AQC3-1; AQC4-1	EA Section 3.3	A Clark County Dust Control Permit will be obtained for the project. Impacts are evaluated in this EA.
Visual Resources	VR1-1;VR2-1;VR2-2; VR2-3; VR2-4;VR3-1;VR4-1	EA Section 3.21	The project area is located in an area of low scenic quality and is managed as VRM Class IV. Invenergy Solar will prepare a Lighting Management Plan Impacts are evaluated in this EA.
Acoustic Environment	N1-1; N2-1; N3-1; N4-1	N/A	The nearest sensitive noise receptor is more than 12 miles away and noise from construction activities would be temporary in nature.
Paleontological Resources	P1-1; P2-1; P2-2	EA Section 3.1	There is a low probability of paleontological resources in the project area.
Cultural Resources	CR1-1; CR2-1; CR3-1; CR3-2; CR3-3	EA Section 3.5	A Class III inventory of the project area was completed and there were no eligible sites identified. A BLM-approved Worker Environmental Awareness Plan would be prepared and provided to all Project employees to address cultural resource concerns. Impacts are evaluated in this EA.
Native American Concerns	NA1-1; NA2-1; NA3-1; NA3-2; NA4-1; NA4-2	EA Section 3.6	An ethnographic study was conducted to identify impacts to Native American concerns. Impacts are evaluated in this EA.
Transportation	T2-1	EA Section 3.20	Invenergy Solar will prepare a Transportation Management Plan.
Hazardous Materials and Waste	HMW1-1; HMW2-1; HMW3-1; HMW4-1; HMW4-2	EA Sections 2.2.4.9, 2.2.6.5, and 3.15	Invenergy Solar will prepare the following plans: • Health and Safety Program • Stormwater Pollution Prevention Plan • Spill Response Plan • Fire Management Plan • Facility Decommissioning Plan Material Safety Data Sheets for all hazardous materials will be provided.
Health and Safety	HS1-1; HS2-1; HS3-1	EA Section 2.2.6.5	Invenergy Solar will prepare the following plans: • Health and Safety Program • Transportation Management Plan • Emergency Response Plan

Table 4. Dry Lake Programmatic Design Features (Continued)

Resource Type	Design Feature	Where Addressed	How Addressed
National Scenic and Historic Trails, Suitable Trails, and Study Trails	NSHT1-1	EA Section 3.5	Invenergy Solar has consulted with the BLM to help determine the Project's conformance with trail management prescriptions and other potential trail constraints for the Congressionally Designated Old Spanish National Historic Trail. The designated trail is located outside the project area and the project's viewshed.

2.2.9.1 RESOURCE SURVEYS

The Solar PEIS contained the results of a comprehensive environmental review conducted by the BLM for all SEZs. The following Project-specific resource surveys have been completed by Invenergy Solar in support of the Project to complement the BLM's environmental review:

- Pre-project desert tortoise 100% presence/absence surveys of the project area and proposed translocation area
- Golden eagle flight and ground nest surveys
- Cactus/yucca density estimates
- Weed risk assessment
- Cultural resources Class III inventory
- Visual Contrast Rating Analysis

2.2.9.2 REGULATORY-REQUIRED PLANS

Detailed structure access and location drawings would be developed in the final POD pending final design. The BLM requires a final POD for the development and implementation of the project. The final POD details the methods and procedures that would be used in construction of the project. The POD includes instructions to construction contractors, agency personnel, resource inspectors, and monitors for construction, operation, and maintenance of the project. The POD also contains a project description, resource protection, mitigation measures, and environmental compliance field activities.

In addition, the following plans would be appendices to the POD and describe the mitigation measures and environmental protection measures that would be followed during construction, operation, and maintenance of all elements of the project. Plans would be submitted to and approved by the BLM prior to issuance of notice to proceed on the Project.

- Desert Tortoise Translocation Plan
- Bird and Bat Conservation Strategy
- Raven Management Plan
- Worker Environmental Awareness Plan
- Transportation Management Plan
- Stormwater Pollution Prevention Plan
- Spill Response Plan

- Site Drainage Plan
- Site Rehabilitation Plan
- Emergency Response Plan
- Health and Safety Program
- Fire Management Plan
- Hazardous Materials Management Plan
- Integrated Weed Management Plan
- Facility Decommissioning Plan
- Lighting Management Plan

2.3 No Action Alternative

Under the No Action Alternative, Invenergy Solar's ROW application to develop the Proposed Action would not be approved and there would be no direct, indirect, or cumulative impacts from the Project. Although the Project would not be developed, because the project area is within an SEZ identified by the BLM as a preferred area for solar development, it is possible that a future ROW application for solar energy development in the project area could be approved by the BLM, and that the selection of the No Action Alternative does not preclude the authorization or approval of other solar energy proposals or projects in this area in the future. These impacts, if they were to occur, would vary depending on the type of utility-scale solar energy development pursued, project size, and project schedule as described briefly below. The Solar PEIS provides a comprehensive evaluation of environmental impacts associated with different technologies for the Dry Lake SEZ (see, e.g., Final Solar PEIS Section 5.10.3.2 regarding technology-specific impacts to ecological resources [BLM and DOE 2012] and Draft Solar PEIS Chapter 5 regarding the impacts of solar energy development and potential mitigation measures [BLM and DOE 2010]). Furthermore, alternative project size and the associated layout could cause location-specific impacts that differ from those of the Proposed Action (such as incursions into washes that are avoided by the Proposed Action). Depending on the construction schedule for a future project or projects on parcels 5 and 6 it is possible that anticipated solar development under the No Action Alternative would cause impacts that could overlap with the construction or operation and maintenance related impacts of other proposed developments in the SEZ to cause or contribute to cumulative impacts.

It is assumed that a different PV development proposal on the Project site would cause impacts that would be substantially similar in type and severity to the impacts analyzed for the Proposed Action in Chapter 3, Environmental Effects. No specific details are available about the any potential development of a project using solar thermal parabolic trough or tower technology or a solar dish engine facility on the Project site; accordingly, the analysis of the No Action Alternative in this EA relies on and tiers to the distinctions in impacts caused by these other technologies as identified in the Solar PEIS (BLM and DOE 2010, BLM and DOE 2012).

2.4 Alternatives Considered But Eliminated from Detailed Analysis

Because the Proposed Action is located within an approved SEZ, alternative locations, project sizes, and technologies are not analyzed in detail in this EA, but are addressed and analyzed in the Final Solar PEIS to which this EA is tiered. This EA incorporates by reference the alternatives analysis completed in the Solar PEIS for the Dry Lake SEZ. As published in the Draft Solar PEIS (BLM and DOE 2010), the proposed Dry Lake SEZ had a total area of 15,649 acres. In the Supplement to the Draft Solar PEIS

(BLM and DOE 2011), the size of the SEZ was reduced, eliminating 9,463 acres to include only the southernmost area that is northwest of I-15. Eliminating the northern portion of the SEZ was primarily intended to avoid or minimize some potential impacts from development in the SEZ, including impacts on desert tortoise and other wildlife and on military operations. In addition, 469 acres of floodplain and wetland were identified as non-development areas. The remaining developable area within the Dry Lake SEZ totaled 5,000 acres.

Prior to the Dry Lake competitive auction held on June 30, 2014 (BLM 2014a), the BLM further refined the developable acres in the SEZ and decided to offer for competitive auction six parcels totaling 3,083 acres out of the original 5,000 acres. This was in recognition of existing ROWs in the SEZ, desert tortoise connectivity, and other wildlife presence and use in the northwestern corner of the SEZ. These adjustments to the developable area were discussed with stakeholders as part of the Dry Lake SRMS (BLM 2014b). In its May 30, 2014, notice of competitive auction, the BLM also indicated that solar PV and parabolic trough technologies were the preferred technologies for solar development in the Dry Lake SEZ (79 *Federal Register* 31129). This was in recognition that solar power tower development could potentially impact military operations in the area.

The Proposed Action on Parcel One has been designed to avoid non-development areas associated with floodplains and wetlands identified in the Solar PEIS. Any additional unresolved resource conflicts associated with development on Parcel One will be addressed through the Project design features summarized in Section 2.2.9, Protective Measures, of this EA and mitigation measures recommended in Chapter 3, Affected Environment, of this EA, including the analysis identified in the Dry Lake SRMS (BLM 2014b).

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area. While many issues may arise during the scoping process, not all of the issues raised warrant detailed analysis. Issues raised during the scoping process are analyzed if:

- The issue is significant (an issue associated with a significant direct, indirect, or cumulative impact, or where necessary to determine the significance of impacts); or
- There is a disagreement about the best way to use a resource or resolve an unwanted resource condition or potentially significant effects of a Proposed Action or alternative.

Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed above to determine whether detailed analysis was required in the EA. Consideration of some of these items occurs in order to ensure compliance with laws, statutes, or Executive Orders that impose certain requirements on all federal actions. Other items are relevant to the management of public lands in general or to the BLM Southern Nevada District Office in particular. Only those resources and resource uses that would potentially be impacted by the Proposed Action are brought forward for detailed analysis and discussed in Chapter 3.

Impacts to resources that are beyond those described in the PEIS would require detailed analysis in this EA. For the analysis, existing data, appropriate scientific methodologies, and professional judgment were used. The analysis also takes into account the protection measures and design features referenced in Chapter 2 and in each resource section. This analysis was done using the best available information, including site-specific data collected during desert tortoise surveys, cultural resource inventories, and visual contrast analysis. Additional data from the PEIS and from federal and state agencies for resources in the area were used to support the analysis. Tables 5 and 6 document the evaluation of each resource/concern and rationale for inclusion or dismissal from detailed analysis in the EA.

Impacts can be beneficial or adverse, can result from the action directly or indirectly, and can be short-term, long-term, or cumulative in nature. Direct impacts are attributable to implementation of an action that affects a specific resource and generally occur at the same time and place. Indirect impacts can result from one resource affecting another or can occur later in time or removed in location but can be reasonably expected to occur. Long-term impacts are those that would substantially remain for many years or for the life of the project. Short-term impacts result in changes to the environment that are stabilized or mitigated rapidly and without long-term effects.

Table 5. Supplemental Authorities and Other Relevant Resources

Supplemental Authority*	Not Present†	Present/ Not Affected†	Present/ May Be Affected‡	Rationale
Air Quality			X	Ensure dust control permit is obtained from the Clark County Department of Air Quality for all soil-disturbing activities of 0.25 acre or greater, in the aggregate and all permit stipulations are in compliance for the duration of the project.

Table 5. Supplemental Authorities and Other Relevant Resources (Continued)

Supplemental Authority*	Not Present†	Present/ Not Affected†	Present/ May Be Affected‡	Rationale
Area of Critical Environmental Concern			X	The project area is not within an ACEC. However, the Project proposes to displace desert tortoises in accordance with an approved translocation plan. A portion of the translocation area selected by the BLM and U.S. Fish and Wildlife Service is within the Coyote Springs ACEC.
Cultural Resources			X	A Class III survey performed by Sagebrush Consultants in 2014 found a single ineligible lithic scatter on the eastern edge of the SEZ. Should work in the area unexpectedly uncover any cultural material, work would stop immediately and the BLM archaeologist would be notified. There would be indirect effects to the Old Spanish Trail/Mormon Road.
Environmental Justice	X			There are no environmental justice communities near the project area.
Farmlands, Prime or Unique	X			There are no prime or unique farmlands in the project area.
Floodplains	X			The SEZ is located outside of Federal Emergency Management Agency–designated floodplains.
Woodlands/Forestry			X	Cactus and yucca are present in the project area. Cactus and yucca are considered government property and are regulated under the BLM Nevada forestry program. Cactus and yucca will need to be avoided. If avoidance is not possible then plants would need to be purchased through the BLM Nevada forestry program or salvaged by a contractor with at least 3 years' experience using BLM salvage protocols. Purchase and salvage will need to be coordinated with the BLM Botanist. All replanted cactus and yucca must be watered and otherwise maintained for a period of 1 year and achieve better than 80% survival rate. The project area is important for commercial seed collection. The area has been designated a commercial seed collection area. Native seed is a commodity regulated under the BLM Nevada forestry program. BLM regularly issues commercial contracts for native seed collection in the project area. Species collected include galleta grass (*Pleuraphis* sp.), desert globemallow (*Sphaeralcea ambigua*), bursage (*Ambrosia dumosa*), and creosote bush (*Larrea tridentata*).
Migratory Birds			X	Migratory birds may be present on and adjacent to the Project.
Native American Religious Concerns			X	Consultation with the Moapa Band of Paiutes, the Las Vegas Paiute Tribe, the Chemehuevi Indian Tribe, and the Paiute Indian Tribe of Utah would occur prior to any development.
Noxious Weeds/Invasive Non-native Species			X	Because of its large footprint, volume of vehicle/equipment traffic, and soil disturbance, the Project introduces considerable risk of spreading infestations or establishing new invasive species/noxious weeds.
Threatened, Endangered, or Candidate Animal Species			X	Action may affect and is likely to adversely affect desert tortoise.
Threatened, Endangered, or Candidate Plant Species			X	Suitable habitat for BLM special-status plants is present within the project area. This includes plants such as the rosy two-toned penstemon (*Penstemon bicolor* ssp. *roseus*).
Waste—Hazardous/Solid		X		Hazardous material waste, solid, nonhazardous substances and/wastes must be handled and disposed of in accordance with the applicable federal, state, and local regulations and BLM policy.

Table 5. Supplemental Authorities and Other Relevant Resources (Continued)

Supplemental Authority*	Not Present†	Present/ Not Affected†	Present/ May Be Affected‡	Rationale
Water Resources/Quality (drinking/surface/ground)		X		Water would be brought in from off-site and there would be no additional drawdown of groundwater supplies in the hydrographic basin.
Wetland/Riparian Zones	X			Not present.
Wild and Scenic Rivers	X			Not present.
Wilderness	X			Not present.

* See H-1790-1 (BLM 2008a), Appendix 1, Supplemental Authorities to Be Considered.

† Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document.

‡ Supplemental Authorities determined to be Present/May Be Affected must be carried forward for analysis in the document.

Table 6. Resources Required for Consideration in Addition to Supplemental Authorities

Other Resources	Not Present*†	Present/ Not Affected*	Present/ May Be Affected†	Rationale
Greenhouse Gas Emissions and Climate Change		X		Greenhouse gas emission levels during construction and operation would be consistent with those described in the Draft PEIS and would not reach a level that warrants additional analysis in this EA.
Hydrologic Conditions	X			No non-developable areas are located in the project area to avoid sensitive ephemeral stream channels.
Fuels/Fire Management		X		Compliance with fire restrictions current at time of project implementation would mitigate any risks introduced by the Project.
Lands/Access			X	BLM has notified adjacent ROW holders per 43 CFR 2807.14.
Geology/Mineral Resources/Energy Production			X	There are no mining claims or mining operations present in the project area. Excavation in the project area may result in the production of mineral materials.
Paleontological Resources	X			In the event of a discovery, the BLM archaeologist would be notified prior to continuing any work.
Rangeland and Livestock Grazing	X			Not present in the project area.
Recreation			X	Dispersed recreation opportunities are likely to be impacted by project implementation.
Socioeconomics		X		The Project would not disproportionately impact social or economic values.
Soils			X	Development of the Project would result in direct and cumulative impacts to loss of desert pavement and biological soil crusts.
Vegetation			X	The Project would result in direct loss, cumulative loss, and fragmentation of native plant communities and the ecosystem services they provide. The BLM sensitive species rosy two-tone penstemon is known to occur in the SEZ. The Project would result in the direct and cumulative loss of habitat within the project footprint.
Visual Resources			X	The Project would result in changes to the characteristic landscape.

Table 6. Resources Required for Consideration in Addition to Supplemental Authorities (Continued)

Other Resources	Not Present*†	Present/ Not Affected*	Present/ May Be Affected†	Rationale
Fish and Wildlife Excluding Federally Listed Species			X	The Project would result in the direct loss, cumulative loss, and fragmentation of wildlife habitat. Loss of individual animals, including BLM sensitive species, is likely.
Wild Horses and Burros	X			The Project is not located within an active herd management area.

* Resources determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document.

† Resources determined to be Present/May Be Affected must be carried forward for analysis in the document.

3.2 Cumulative Scenario

Council on Environmental Quality regulations for implementing NEPA define cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The BLM NEPA Handbook (BLM 2008a) states that the purpose of the cumulative effects analysis is to ensure that decision-makers consider the full range of the consequences of the Proposed Action and No Action Alternative. Those resources identified for detailed analysis that would be directly or indirectly affected by the Proposed Action are analyzed below. If the actions under the Proposed Action and No Action Alternative have no direct or indirect effect on a resource, then the cumulative impacts on that resource are not addressed below.

The geographic area of cumulative impacts analysis is generally based on the natural boundaries of the resource affected and is described below in each resource section. Section 11.3.22 of the December 2010 Draft Solar PEIS (BLM and DOE 2010:11.3-329) explains that the cumulative effects analysis in the Solar PEIS considered a 20-year period during which the incremental impacts of various actions could combine to cause or contribute to cumulative effects. The cumulative effects analysis in this EA tiers to and updates the analysis in the PEIS, including refining the timeframe in which project impacts would occur. Table 7 summarizes past, present, and reasonably foreseeable future actions within 50 miles (80 km) of the Dry Lake SEZ. Past actions are considered those that have occurred within the past 50 years. Present actions are considered those occurring at the time of this evaluation. Future actions are those that are in planning stages with a reasonably foreseeable expectation of occurring over the next 20 years. These actions were originally identified in the Draft Solar PEIS and updated with current information from the BLM Southern Nevada District Office.

As discussed in the Draft RMP and EIS of the Las Vegas and Pahrump Field Offices, vegetation (native plant communities) in the Las Vegas Field Office and Mojave Ecoregion is experiencing severe declines in quality and quantity that affect the level of ecosystem services they provide to humans. In general, direct and indirect impacts to native plant communities are additive and cumulative over time; most Mojave Desert native plant communities will not fully recover from temporary disturbances within the lifetime of the average BLM resource management plan. Using a survey of 47 studies examining natural reestablishment after a variety of disturbances, such as fire, abandoned roads, power line corridors, and a linear regression, Scott Abella (2010) estimates that without active restoration, it takes the Mojave Desert 76 years for reestablishment of perennial plant cover and 215 years for reestablishment of perennial and annual species cover. Almost all native vegetation in the Mojave ecoregion is being subjected to multiple environmental stressors that affect the quality of native plant communities. Summarized below are the

trends in stressors and effects on vegetation from 1998 to 2013 in the Las Vegas and Pahrump Field Offices:

Non-native species: The trend is an increase in area occupied by non-native species. Invasive non-native plants are a major threat to native plant communities because they thrive in disturbed areas and are better competitors for water, nutrients, and space than many native species (Billings 1990; D'Antonio and Vitousek 1992; DeFalco et al. 2007; Mack 1981; Salo 2005; Vitousek 1990). This competition slowly reduces the stability and resiliency of native plant communities because it gradually reduces the amount of seed produced by native species and, subsequently, the amount available for recovery. An estimated 2.9 million acres (or 94%) of land administered by the Las Vegas and Pahrump Field Offices is moderately to heavily impacted by non-native plants, primarily red brome (*Bromus rubens*) and Mediterranean grass (*Schismus barbatus*).

Fire: The trend is an increase in number of acres burned and higher frequency of repeat burning. In lower-elevation vegetation, non-native annual grasses are now responsible for an annual grass/fire cycle that did not exist before (Brooks 1999; Brooks et al. 2004). This is largely because the spaces between individual shrubs were bare, and acted as a fuel break. Now, non-native annual grasses create a nearly continuous fuel load that carries fire between shrubs (Brooks 1999). Following fire, non-native annual grasses are some of the first species to return. If fire returns too quickly, the surviving native plants do not have enough time to grow and produce the seed needed for recovery. An estimated 1.3 million acres (or 42%) of land administered by the Las Vegas and Pahrump Field Offices burned from 1998 to 2013.

Livestock grazing: The trend is toward a decrease in the number of active grazing allotments, grazing use is constant in wild horse and burro herd management areas. Grazing affects the species composition and biomass production of native plant communities through selective foraging. It is generally agreed that present-day Mojave ecosystems did not evolve with significant selective pressure from large-bodied herbivores (Beever et. al. 2003; Brown and McDonald 1995; Grayson 1987; Hall 1946), and desert vegetation is very slow to recover if overgrazed or disturbed (Abella 2008; Chambers et al. 2013; Tueller 1989). Currently 9.2% of land administered by the Las Vegas and Pahrump Field Offices is being grazed by domestic livestock, wild horses, and burros.

Climate change: The trend is toward less stable atmospheric conditions leading to more extremes in temperature and precipitation, increase in the average low temperature, potential changes in seasonality, and potential decrease in total precipitation. Changes in temperature and precipitation affect the ability of seeds to germinate, and plants to grow, which can affect what plant species are present and which species are dominant. The entire 3.1 million acres under the jurisdiction of the Las Vegas and Pahrump Field Offices is affected. Evidence of changes in vegetation shifts over the last 30 years includes shifts in the distribution of Mojave yucca (*Yucca schidigera*), pinyon pine (*Pinus monophylla*), and juniper trees (*Juniperus communis*).

Lands and minerals use authorizations: The trend is towards an increasing number of authorizations issued, reflecting trends in economic growth. BLM issued 2,917 lands and minerals authorizations directly and indirectly affecting 304,000 acres (roughly 9.8%) of the BLM Southern Nevada District planning area between 1998 and 2013.

Development of desert tortoise habitat, habitat for BLM special-status species, and habitat for wildlife: The trend is toward increasing development in desert tortoise habitat, reflecting trends in economic growth. Based on desert tortoise Section 7 fees, an estimated 40,000 acres of creosote-bursage scrub was impacted between 1998 and 2013.

Recreation use: The trend is toward increasing permitted and casual recreation on public lands. Since 2007, casual visitor use in the Las Vegas Field Office has increased by approximately 11% annually.

Casual recreation is estimated to have directly impacted between 3,000 to 6,000 acres (0.12% to 0.25%) of native plant communities in the Las Vegas Field Office under the 1998 RMP. As of 2009, there are approximately 11,151 miles (an estimated 13,500 acres, or 0.56%) of dirt roads and trails present in the Las Vegas Field Office jurisdictional area. Similar percentages are likely for lands administered by the Pahrump Field Office. Impacts to vegetation from casual recreation are the highest in special recreation management areas (SRMAs). The number of acres of indirect impacts and cumulative impacts is unknown.

In any NEPA analysis, it is preferable to quantify the assessment of impacts on each affected resource. This is true for direct, indirect, and cumulative impacts. Where possible, the following analysis is quantified. Because the reasonably foreseeable figure projects are in the early stages of planning, there is generally insufficient information to fully describe potential impacts from those projects. Where there is insufficient information, and quantification is not available, a meaningful and qualified judgment of cumulative effects will be included to inform the public and the decision-maker.

Table 7. Past, Present, and Reasonably Foreseeable Future Actions Considered for Cumulative Impacts Analysis

	Project Name / Owner	Description	Status	Primary Impact Location
1	Mountain View Solar (NVN 90989) / NextEra	20 MW PV on 146 acres of private land; 3.75 miles of 34.5 kV transmission line on BLM-administered land (NextEra Energy Resources 2014; BLM 2012)	Existing	2 miles southwest of SEZ
2	Apex Solar Power (NVN 88313) / Fotowatio Nevada Solar, LLC	20 MW PV on 154 acres of private land; 1.52 acres of ROW on BLM-administered land for 69 kV gen-tie (BLM 2010a)	Existing	Near Apex, NV, 2 miles southwest of SEZ
3	Copper Mountain Solar 1 / Sempra U.S. Gas and Power (Sempra)	48 MW expansion of original 10 MW PV plant. 380 acres.	Existing	Southwest of Boulder City, NV; 45 miles south of SEZ
4	ON Line Project (NVN 085210) / Great Basin Transmission South LLC & NV Energy	New Robinson Summit Substation and a 230-mile 500 kV transmission and fiber optic line to existing Harry Allen Substation.	Existing.	Passes through SEZ
5	El Dorado Solar / Sempra	10 MW PV on 80 acres	Existing	45 mi south of SEZ
6	Nellis Air Force Base Solar	13.5 MW PV on 140 acres	Existing	Nellis AFB, 10 mi south of SEZ
7	Nevada Solar One / Acciona	64 MW solar thermal parabolic concentrators on 2380 acres	Existing	40 mi south of SEZ
8	Apex Generating Station / Mirant	600 MW combined cycle natural gas plant at I-15 and NV 93	Existing	Adjacent to SEZ
9	Chuck Lenzie Generating Station/ NV Energy	1,102 MW combined cycle natural gas plant	Existing	Adjacent to SEZ
10	El Dorado Energy Generating Station / Sempra	480 MW combined cycle natural gas plant	Existing	45 mi south of SEZ
11	Edward W. Clark Generating Station / NV Energy	1,102 MW combined cycle/peaking natural gas plant	Existing	25 mi southwest of SEZ

Table 7. Past, Present, and Reasonably Foreseeable Future Actions Considered for Cumulative Impacts Analysis (Continued)

	Project Name / Owner	Description	Status	Primary Impact Location
12	Goodsprings Waste Heat Recovery Generation Facility / NV Energy	7.5 MW waste heat recovery plant on 5 acres	Existing	50 mi southwest of SEZ
13	Harry Allen Generating Station and Substations / NV Energy	628 MW combined cycle natural gas plant with 500/345/230 kV substation facilities	Existing	Within SEZ
14	Saguaro Power Company	93+ MW natural gas and heat recovery plant	Existing	20 mi south of SEZ
15	Silverhawk Generating Station / NV Energy	520 MW combined cycle natural gas plant	Existing	Adjacent to SEZ
16	Sunpeak Generating Station	Three 73 MW natural gas peaker plants	Existing	20 mi south of SEZ
17	Kern River Gas Transmission System	Two natural gas pipelines from Wyoming to Las Vegas/San Bernardino	Existing	Pipeline passes through SEZ
18	Communication Sites / Arizona Nevada Tower Corporation (ANTC)	Seven cellular telephone signal relay towers, 125 – 195 ft height (BLM 2007)	Existing (ANTC 2014)	Lincoln County along the U.S. 93 corridor between Coyote Springs Valley and the town of Pioche
19	Meadow Valley Gypsum Project	Open pit mine, processing plant and ancillary facilities; a 7,800-foot access road; and a low-water crossing across Meadow Valley Wash. 47 acres of public land.	Existing	35 mi northeast of SEZ
20	Lincoln County Land Act (LCLA) Groundwater Development and Utility ROW (NVN 79734) / LCWD	75 mi of water collection and transmission pipeline, 30 wells, 5 storage tanks, 4 booster stations, 24 miles of 138 kV power transmission lines, substation, and a natural gas pipeline	ROD issued 2010. Under construction. (BLM 2010b)	45 mi northeast of the SEZ
21	Reid Gardner Generating Station / NV Energy	557 MW coal plant, 240-acre fly ash landfill and 315-acre evaporation pond	In process of decommissioning. Nevada Senate Bill 123[3] (2013) accelerated the retirement of Reid Gardner Station. Three of the plant's four units will close in 2014, and the remaining unit will close in 2017.	20 mi northeast of the SEZ
22	Copper Mountain Solar 2 / Sempra	150 MW PV on 1,100 acres private land	Under construction, expected complete in 2015 (Sempra 2014)	South of Boulder City, NV; 40 mi south of SEZ
23	Moapa Solar Project (NVN 89176) / First Solar	250 MW, 2,000 acres on the Moapa River Indian Reservation plus 153 acres for gen-tie and access road/pipeline.	Construction began March 2014, expected to be completed by end of 2015 (First Solar 2013)	5 mi east of the SEZ

[3] The text of Senate Bill 123 can be accessed online at the following address: https://www.leg.state.nv.us/Session/77th2013/Bills/SB/SB123_EN.pdf.

Table 7. Past, Present, and Reasonably Foreseeable Future Actions Considered for Cumulative Impacts Analysis (Continued)

	Project Name / Owner	Description	Status	Primary Impact Location
24	Moapa Solar Energy Center (NVN 88870) / RES Americas	200 MW PV solar project on 850 acres on the Moapa River Indian Reservation, with a 7.5-mile 230kV transmission line on BLM-administered lands connecting to Harry Allen Substation.	ROD issued in May 2014, construction expected to begin early 2015. (Bureau of Indian Affairs 2014)	Transmission line passes through the SEZ
25	Nellis Air Force Base Area II Solar / NV Energy	15 MW PV on 160 acres	Construction expected to start late 2014 or early 2015, contingent on Nevada PUC contract approval (NV Energy 2014)	Nellis AFB, 10 mi south of the SEZ
26	UNEV Pipeline Project / Holly Energy	425 mile, 12-inch diameter common carrier refined products pipeline from Salt Lake City to Las Vegas	Scheduled to be completed in 2014 (Holly Energy, 2014)	Corridor passes through the SEZ
27	Coyote Springs Investment (CSI) Development Project	New master-planned community on 21,000 to 43,000 acres. 111,000 to 159,000 residential units and additional amenities/facilities.	USFWS issued a ROD in 2008. The golf course has been constructed, but no other construction has occurred. Land has been transferred among holding companies, there appear to be no immediate plans to continue construction.	Junction of U.S. 93 and SR 168, 15 mi north of the SEZ
28	Mohave County Wind Farm (AZA 032315)/BP Wind Energy	500 MW, 335 wind turbines and ancillary facilities on 31,388 acres public land. 169 acres permanent disturbance, 507acres temporary. Construction 100-200 workers, operations 10-20 workers (BLM 2013)	ROD signed June 2013	Arizona, 40 mi south of the SEZ
29	One Nevada Transmission Line Project (NVN 82076) / NV Energy	236 mi single-circuit 500 kV transmission line between Harry Allen and Robinson Summit Substations.	ROD issued March 2011. ROW in abeyance.	In SWIP utility corridor passing through SEZ
30	Clark, Lincoln, and White Pine Counties Groundwater Development Project / SNWA	Transport approximately 122,755 ac-ft/yr of groundwater. Production wells, 306 mi (490 km) of buried water pipelines, 5 pumping stations, 6 regulating tanks, 3 pressure reducing stations, a buried storage reservoir, a water treatment facility, and about 323 mi (517 km) of 230-kV overhead power lines, 2 primary and 5 secondary substations.	ROD signed December 2012, ROWs issued May 2013. Construction expected to be complete by 2022.	The project would develop groundwater in the following amounts in two hydraulically connected valleys that are up-gradient of the Dry Lake SEZ: Dry Lake Valley (11,584 ac-ft/yr) and Delamar Valley (2,493 ac-ft/yr). In addition, an undetermined amount of water could be developed and transferred from Coyote Spring Valley, which is north of the SEZ and downgradient of the other two basins.
31	Toquop Energy Project / EWP Renewable Corporation	1,100 MW combined cycle natural gas plant on up to 640 acres	NTP issued, ROW for water development expected in 2014 (BLM 2014a).	50 mi northeast of the SEZ
32	TransWest Transmission Project (WYW 177893, COC 72929, UTU 87238, NVN 86732) / TransWest Express	725 mi single-circuit 600 kV line with terminals in Sinclair, Wyoming and south of Las Vegas, Nevada (BLM 2014b).	DEIS published July 2013.	Pass southern boundary of the SEZ

Table 7. Past, Present, and Reasonably Foreseeable Future Actions Considered for Cumulative Impacts Analysis (Continued)

	Project Name / Owner	Description	Status	Primary Impact Location
33	Zephyr Transmission Lines Project / Duke American Transmission Co. (DATC)	500 kV transmission lines from Wyoming to El Dorado Valley	Acquired by DATC in 2011, in early NEPA review. Target construction 2017-2020 (DATC 2014)	Pass near or through the SEZ
34	Southern Nevada Intertie Project (SNIP) (NVN 86359)/ Great Basin Transmission South LLC	60-mile 500kV line in Clark County, NV from Harry Allen Substation to Eldorado Substation	Pending. EA published May 2012. Decision expected late 2014.	Passes through the SEZ
35	Dry Lake Solar Energy Center Project (NVN 93337) / NV Energy	120 MW PV on up to 660 acres of BLM-administered land.	Pending	Parcels 5 and 6 of the SEZ
36	Playa Solar Energy Center (NVN 93306) / First Solar	200 MW PV on approximately 1,700 acres of BLM-administered land	Pending	Parcels 2, 3, and 4 of the SEZ
38	Centennial II Project (NVN 90148)/ NV Energy	56 mi 500kV line between Harry Allen Substation and Eldorado Substation in Clark County, NV	Application in process. Target construction 2019-2020 (WECC 2014).	Passes through the SEZ
39	NVN 83914/ Bright Source Energy	10,000 acre, 500 MW CSP	Pending	25 mi northeast of the SEZ
40	NVN 84232/ First Solar	5,500 acre, 400 MW PV	Pending	Adjacent to the SEZ
41	NVN 84631/ Bright Source Energy Solar	2,000 acre, 1,200 MW CSP	Pending	5 mi northeast of the SEZ
42	NVN 87907/ Pacific Wind Development	2,200 acre wind testing	Pending	40 miles northeast of the SEZ
43	NVN 87970/ Pacific Wind Development	5,089 acre wind testing	Pending	40 miles northeast of the SEZ
44	NVN 89219/ Pioneer Green Energy	20,680 acre wind testing	Pending	5 miles southeast of the SEZ
45	NVN 83041/ Table Mtn Wind	11,570 acre wind testing	Pending	50 miles southwest of the SEZ
46	NVN 73726 / Table Mtn Wind	8,320 acre wind development	Pending	50 miles southwest of the SEZ
47	NVN 90476 / BrightSource	750 MW CSP on 16,617 acres	Pending (BLM 2014c)	50 miles southeast of the SEZ
48	NVN 90788 / Boulevard Assoc. (Sandy Valley Solar)	250 MW PV on 3,217 acres	Pending (BLM 2014c)	50 miles southwest of the SEZ

SOURCES: BLM AND DOE 2012, Table 11.3.22.2-1 (p. 11.3-98), Table 11.3.22.2-2 (p. 11.3-101 et seq.), and Table B-2 (p. B-4); also as indicated

3.3 Air Resources

3.3.1 Affected Environment

Information for Air Resources presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-59). Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the air basin, and the meteorological conditions. The Project is located in the Apex Valley Area in Hydrographic Basin 216. As described in the Final PEIS, the project area is in attainment for all criteria pollutants except for 8-hour ozone. Although the project area is in attainment for PM_{10} and $PM_{2.5}$, they are still considered pollutants of concern. Existing sources of PM_{10} and $PM_{2.5}$ in Apex Valley include motorized travel across the dry

lake, dirt-surface roads and trails, wind blowing across unvegetated areas, road work, and other construction activities. The project area is currently impacted by emissions from vehicles traveling on I-15 and U.S. 93, the Apex landfill, the mines and mills operating on the south end of the SEZ, and the natural gas-fired power plants operating on and around the SEZ.

3.3.2 Applicable Laws, Regulations, Plans, and Standards

The U.S. Environmental Protection Agency has developed the National Ambient Air Quality Standards (NAAQS) for six criteria pollutants which include nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb), ozone (O_3), and particulate matter (PM).

3.3.3 Methodology

The following methods were used to evaluate impacts to air quality:

- Calculate acres of potential surface disturbance.
- Conduct a review of the emissions described in the Solar PEIS for potential development in the Dry Lake SEZ.

3.3.4 Proposed Design Features

All appropriate design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to air quality were identified in the Final Solar PEIS. The BLM reduced the developable area within the SEZ, including the project area, to reduce impacts. Limiting dust during construction and operation activities is a required design feature under the BLM's Western Solar Plan (BLM 2014a). These fugitive dust control measures, including the potential application of dust palliatives previously approved by the BLM, would keep off-site PM levels reduced. In addition, a dust control permit from the Clark County Department of Air Quality for all soil-disturbing activities would be required for the Project.

3.3.5 Environmental Consequences

3.3.5.1 PROPOSED ACTION

3.3.5.1.1 Solar PEIS Summary

The potential impacts to air quality that may result from the construction and operations of a typical solar PV facility in the Dry Lake SEZ are described in Section 11.3.13.2 of the Final Solar PEIS (BLM 2012) and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to air quality that are relevant to the Proposed Action is presented below. A summary of the related design features for air quality that have been fully analyzed in the PEIS is provided in Section 3.3.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document.

Air quality impacts for the Final PEIS were modeled based on the assumption that a maximum of 3,000 acres would be disturbed at any one time in the SEZ (BLM and DOE 2012:11.3-61). During construction activities, there would be an increase in particulate levels that could exceed standard levels used for comparison, but would be limited to the immediate area and would decrease quickly with distance. Emissions from construction-related equipment and vehicles would be temporary and may result in

unavoidable but short-term impacts. Because decommissioning and reclamation activities would be short-term, their potential air impacts would be minor and temporary.

3.3.5.1.2 Direct and Indirect Effects

The Proposed Action has the potential to impact 717 acres in the long term and impact 8 acres in the short term through ground-disturbing activities. The impacts to air quality associated with the disturbance of the project area are consistent with those described in Section 3.3.5.1.1 above. Because the predicted impacts on air quality at the project level would only contribute 717 acres of long-term impact, and 8 acres of short-term impact, it would be much lower than those presented in the Final PEIS. Increases in particulate levels would be further reduced by the implementation of the proposed design features, and by compliance with the terms and conditions of the required Dust Permit.

The Proposed Action would have a maximum of 350 workers, and 175 worker vehicles during construction activities. Additional impacts as a result of construction equipment and employee vehicles at the Project are expected to be temporary and are not expected to result in noncompliance with NAAQS (BLM 2014b:49). The Project would have up to six full-time staff during operations. Long-term emissions associated with the operation of the Project would be minor.

3.3.5.1.3 Mitigation Measures

Following the implementation of design features identified in Section 3.3.4, no additional mitigation measures to address impacts to air quality are recommended. There would be no difference between the Project's impacts described above and residual impacts.

3.3.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for air quality is Hydrographic Basin 216. Section 11.3.22.4.12 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to air quality and climate. The development of the entire Dry Lake SEZ would result in new disturbance of up to 2,359 acres, which is below the 3,000 acres used to model impacts for the PEIS. The project, in combination with other past, present, and reasonably foreseeable future actions in Hydrographic Basin 216, would contribute to cumulative increases in particulate levels and other criteria pollutants in the Basin.

It is assumed that the other two developments in the SEZ would be subject to the same design features and mitigation measures which reduce the potential cumulative increases in particulate levels. In addition, other reasonably foreseeable future actions in the basin that would result in soil-disturbing activities of greater than 0.25 acre would be required to obtain a dust permit from the Clark County Department of Air Quality and to comply with the all permit stipulations.

3.3.5.2 NO ACTION

3.3.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and air quality in the area would continue to be subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment and other sources air emissions are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could

be constructed and presumably would result in impacts to air quality similar to those described under the Proposed Action.

3.3.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to air quality, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to air quality from that development would likely be similar or greater than those described in the Proposed Action section above.

3.4 Areas of Critical Environmental Concern

3.4.1 Affected Environment

Information for ACECs presented in the specially designated areas and lands with wilderness characteristics affected environment section of the Final Solar PEIS remains valid except where noted below (BLM and DOE 2012:11.3-6).

Although the Project does not occur within, or overlap, an ACEC, it is approximately 0.8 mile (1.3 km) east of the 51,527-acre Coyote Springs ACEC. In addition, approximately 1,500 acres of the proposed desert tortoise translocation area identified by the BLM and the USFWS occurs partially within the southern end of the Coyote Springs ACEC (Figure 3). The Coyote Springs ACEC is designated as critical habitat for desert tortoise and is being managed by the BLM for the recovery of the species. The ACEC is intended to provide functional corridors of habitat between tortoise recovery units in order to enhance long-term persistence of the species. It consists of the western portion of the Mormon Mesa Critical Habitat Unit, protecting moderate to high densities of desert tortoise between the Desert National Wildlife Refuge, the Arrow Canyon Wilderness, and the Mormon Mesa ACEC (BLM 1998). Although the ACEC is largely separated from the project area by the southern end of the Arrow Canyon Range, there is a pass where U.S. 93 crosses that provides connectivity from the ACEC to the Dry Lake Valley.

The Las Vegas Field Office has protected 1,097 square miles (702,160 acres) of desert tortoise critical habitat in desert tortoise ACEC reserves. The majority of this habitat is within the Northeastern Mojave Recovery Unit, with 190,000 acres in the Eastern Mojave Recovery Unit. The ACEC boundaries were established to match the boundaries of desert tortoise critical habitat where the habitat was largely intact and where tortoise populations were highest. Boundaries differed in some locations to exclude degraded habitat and to add habitat outside critical habitat designated areas to make up for the degraded areas.

The Coyote Springs ACEC is located north of Las Vegas along State Route 93. The ACEC is composed of a broad alluvial valley that lies between the Sheep Range to the west and the Arrow Canyon and Meadow Valley Ranges to the east. The northern boundary is Lincoln County and State Route 168, and the southern boundary is the Apex Industrial Park. The ACEC's configuration is intended to provide functional corridors of habitat between tortoise recovery units to enhance long-term persistence of the species. It consists of the western portion of the Mormon Mesa Critical Habitat Unit, protecting moderate to high densities of desert tortoises between the Desert National Wildlife Refuge, the Arrow Canyon Wilderness, and the Mormon Mesa ACEC.

This area supports three vegetative communities, creosote-bursage scrub, Mojave mixed scrub, and blackbrush (*Coleogyne ramosissima*). These plant communities provide diverse habitats for many species including desert bighorn sheep (*Ovis canadensis*).

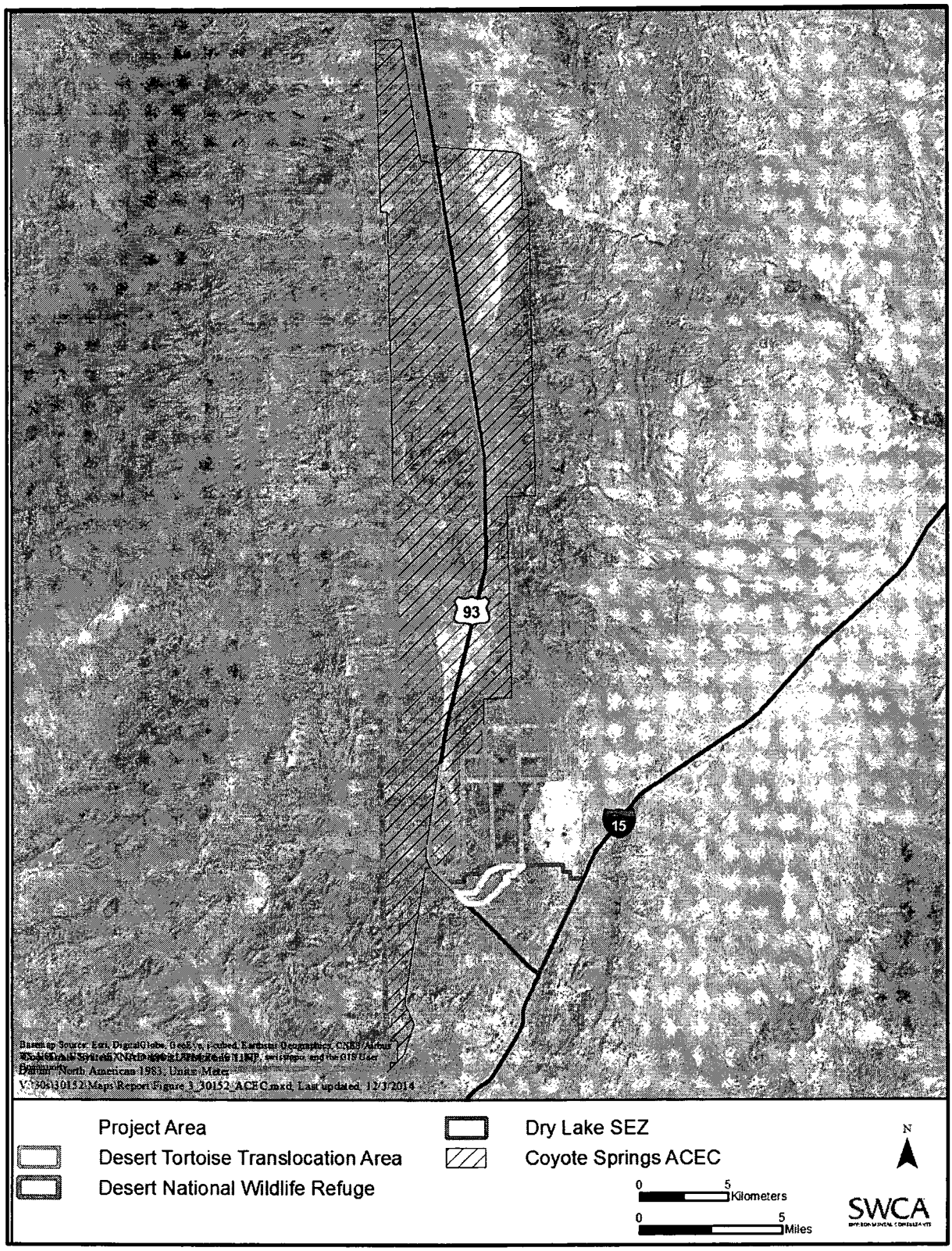

Figure 3. Area of Critical Environmental Concern and translocation area.

Along its northern boundary, a large residential and resort development has the potential to impact conservation efforts. Human uses affecting habitat quality include unauthorized cross-country off-highway vehicle (OHV) use, highways, utility corridors, shooting, and sand and gravel mining. Invasive weeds and grasses are becoming an increasing concern. The ACEC contains approximately 150 miles of open roads in addition to the highways.

3.4.2 Applicable Laws, Regulations, Plans, and Standards

An ACEC is a designation given by BLM to lands that meet special relevance and importance criteria set forth by the BLM. The area must have special relevance to natural, cultural, or historic resources and importance such that special management is required to protect the value of these resources (BLM 1988). Potentially relevant values are evaluated based on guidance in 43 CFR 1610.7-2, Designation of Areas of Critical Environmental Concern, and BLM Manual 1613, Areas of Critical Environmental Concern (BLM 1988). BLM is directed by law, regulation, and policy to consider designating ACECs when developing land use plans. The FLPMA directs the BLM to "give priority to the designation and protection of areas of critical environmental concern" through the "development and revision of land use plans" (FLPMA Title II, Sec 202(c) 3). "The term 'areas of critical environmental concern' means areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards."

3.4.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility and are the same as those used to evaluate impacts to desert tortoise:

- Quantitative geographic information system (GIS) analysis overlaying acres of surface disturbance with tortoise habitat.
- Quantitative GIS analysis overlaying acres of surface disturbance with tortoise connectivity corridor.
- Qualitative description of the tolerance of desert tortoise to construction noise and disturbance.
- Quantitative assessment of population densities before and after translocation.

3.4.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to ACECs were identified in the Final Solar PEIS. The BLM reduced the developable area within the SEZ, including the project area, which resulted in increased distance from the project area to the ACEC, and to other specially designated areas.

3.4.5 Environmental Consequences

3.4.5.1 PROPOSED ACTION

3.4.5.1.1 Solar PEIS Summary

Potential impacts to the Coyote Springs ACEC were not considered in the Final Solar PEIS.

3.4.5.1.2 Direct and Indirect Effects

Translocation of desert tortoise under the Proposed Action would not impact the relevance and importance criteria of the ACEC to manage desert tortoise habitat for the recovery of the species. There is a potential to impact the critical habitat through translocation if it results in exceeding the carrying capacity of the area, although this impact is likely to be small. There would be no development, and no manipulation of habitat within the ACEC. Although there would be no change to the ACEC designation, there would be impacts to desert tortoise as a result of translocation as described under Section 3.9.4.

3.4.5.1.3 Mitigation Measures

Following the implementation of design features identified in Section 3.4.4, no additional mitigation measures to address impacts to the ACEC are recommended. Any translocation into the ACEC would occur under authorized desert tortoise biologists following USFWS guidelines and would follow an approved translocation plan. There would be no difference between the Project's impacts described above and residual impacts.

3.4.5.1.4 Cumulative Effects

Because only the Coyote Springs ACEC would be impacted, the cumulative impacts area of analysis for ACECs is defined as the boundary of the Coyote Springs ACEC. The development of other projects in the Dry Lake SEZ may result in translocation of desert tortoise into a portion of the ACEC. Because limits for translocation would be established in an approved translocation plan, the cumulative impacts of all development in the SEZ would be negligible. There could be other solar projects proposed in this area that would result in translocating tortoises in this ACEC. There will likely be other projects in the ACEC such as transmission lines that would reduce the amount of habitat in the ACEC and thus decrease the carrying capacity on some level.

3.4.5.2 NO ACTION

3.4.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and the Coyote Springs ACEC would continue to be managed according to the BLM Las Vegas RMP subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific needs for translocation are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in the need for the Coyote Springs ACEC continue to be considered as a translocation recipient site for future development in the SEZ, the impacts to desert tortoise within the ACEC would be similar to those described under the Proposed Action.

3.4.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to the ACEC, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to the ACEC from that development would likely be similar or greater than those described in the Proposed Action section above.

3.5 Cultural Resources

3.5.1 Affected Environment

Information for cultural resources presented in the affected environment section of the Final Solar PEIS remains valid except where noted below (BLM and DOE 2012:11.3-78). A Class III survey performed by Sagebrush Consultants in 2014 found a single NRHP-ineligible lithic scatter on the eastern edge of the Dry Lake SEZ, outside of the project area. No others sites were recorded in the Dry Lake SEZ.

Following completion of a SEZ-specific viewshed delineation, the BLM identified 22 sites in the Nevada Cultural Resource Information System database that could be located within the Project viewshed. Thirteen of those sites are considered ineligible for listing in the NRP. Six of those sites were of undetermined eligibility and included minor prehistoric sites that would only be eligible under Criterion D. Three sites were found to be eligible for the NRHP: the San Pedro, Los Angeles, and Salt Lake Railroad; the Arrowhead Highway; and the Old Spanish Trail/Mormon Road.

The San Pedro, Los Angeles, and Salt Lake Railroad is located east of the SEZ and follows the existing Union Pacific Railroad. This railroad was the first to connect Salt Lake City to Los Angeles and made Las Vegas a critical hub along the line.

The old Arrowhead Highway in this area is currently a frontage road for I-15 and passes east of the SEZ. This road was the earliest highway in Southern Nevada and connected Las Vegas to St. Thomas (a town flooded by Lake Mead near Overton, Nevada).

There are two segments of the Old Spanish Trail located near the Project. The congressionally designated Old Spanish Trail National Historic Trail is located approximately 4.5 miles (7.3 km) from the Project and outside of the viewshed of the Project. However, a trace of the Old Spanish Trail/Mormon Road, not part of the congressionally designed national historic trail, but considered as a NRHP-eligible site, is located 2.25 miles (3.6 km) east of the Project and within the Project's viewshed (BLM and DOE 2012:11.3-68). No physical evidence of the eligible section of the trail was recorded during the Class III survey, and the area appears to have been disturbed over time by vehicle travel and construction activities. The trail segment parallels I-15 and crosses U.S. 93, and follows a portion of the Union Pacific Railroad, existing gas pipelines, and several transmission lines. Other existing facilities within the trail's viewshed include the Harry Allen and Chuck Lenzie generation stations, existing mining activity, the Loves Travel Center, and as many as four existing substations.

3.5.2 Applicable Laws, Regulations, Plans, and Standards

Cultural resources in Nevada are protected by federal and state laws, regulations, and statutes. Section 106 of the NHPA, as amended in 2000, requires government agencies to take into account the effects of their actions on properties listed or eligible for listing in the NRHP. Cultural resources refer to both human-made and natural physical features associated with human activity and, in most cases, are finite, unique, fragile, and nonrenewable. Cultural resources that meet the eligibility criteria for listing in the NRHP are considered "significant" resources and must be taken into consideration during the planning of federal projects.

3.5.3 Methodology

The following methods were used to evaluate impacts to cultural resources:

- BLM performed a GIS viewshed analysis for the Dry Lake SEZ based on a 5-meter height for proposed facilities to determine sites located within the viewshed.

3.5.4 Proposed Design Features

All appropriate design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to cultural resources were identified in the Final Solar PEIS. The BLM reduced the developable area within the SEZ, including the project area, which resulted in increased distance from the project area to the NRHP-eligible section of the Old Spanish Trail, the Arrowhead Highway, and the San Pedro, Los Angeles, and Salt Lake Railroad.

A Memorandum of Agreement is being drafted to address adverse effects to the Old Spanish Trail/ Mormon Road, Arrowhead Highway, and San Pedro, Los Angeles, and Salt Lake Railroad. The Memorandum of Agreement will include a reference to developing a Historic Properties Treatment Plan for the affected sites. The Historic Properties Treatment Plan will be developed to include interpretation of these sites as well as off-site protection of the Old Spanish Trail/Mormon Road. Additional coordination with the Trail Administration of the Old Spanish Trail and the Old Spanish Trail Association is recommended to identify potential mitigation measures.

3.5.5 Environmental Consequences

3.5.5.1 PROPOSED ACTION

3.5.5.1.1 Solar PEIS Summary

The potential impacts to cultural resources on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.17.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to cultural resources that are relevant to the Proposed Action is presented below. A summary of the related design features for cultural resources that have been fully analyzed in the PEIS is provided in Section 3.5.4 above.
The impacts and design features analyzed and described in the PEIS are incorporated into this document.
The impacts and design features analyzed and described in the PEIS are incorporated into this document.
The PEIS called for further investigation to be conducted of the SEZ. The Class III survey performed by Sagebrush Consultants in 2014 found no eligible sites in the project area. The Old Spanish Trail could be affected visually (BLM and DOE 2012: 11.3-80).

3.5.5.1.2 Direct and Indirect Effects

Because there are no eligible cultural resources located within the project area, the Proposed Action would not result in direct impacts to cultural resources. Because the congressionally designated Old Spanish Trail National Historic Trail is located outside of the Project viewshed there would be no indirect impacts to the congressionally designated Old Spanish National Historic Trail.

Development of the Proposed Action would result in an indirect adverse effect to the setting and feel of the three NRHP-eligible properties identified within the SEZ viewshed. The Proposed Action would be viewed from those properties in context with the other existing modifications, including numerous varied transmission structures and the Harry Allen combined-cycle generation station that have already affected the setting and feel of the properties.

3.5.5.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to cultural resources, changes to the characteristic landscape as viewed from the Old Spanish Trail/Mormon Road as a result of the Proposed Action would remain in the long term. During development of the Dry Lake SEZ SRMS, cumulative impacts to cultural resources were identified as an unavoidable impact which cannot be mitigated on-site. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation may include interpretation of NRHP-eligible sites as well as off-site protection of the Old Spanish Trail. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

3.5.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for direct impacts to cultural resources is defined as the Dry Lake SEZ and adjacent lands. Section 11.3.22.4.16 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to cultural resources. For indirect impacts it is defined as the viewshed within a 25-mile (40-km) radius of the SEZ. Because there would be no direct impacts to cultural resources from the Proposed Action, there would be no contribution to cumulative impacts.
The development of other projects in the Dry Lake SEZ would result in the modification of 2,359 acres of undeveloped public land. The cumulative changes to the setting and feel of these properties from all three developments in the SEZ considered together would be beyond that of the previously built structures within the indirect Area of Potential Effects.

3.5.5.2 NO ACTION

3.5.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and cultural resources would continue to be subject to ongoing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment and other sources ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to cultural resources similar to those described under the Proposed Action.

3.5.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to cultural resources, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to cultural resources from that development would likely be similar or greater than those described in the Proposed Action section above.

3.6 Native American Concerns

3.6.1 Affected Environment

Information for Native American concerns presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-81). On October 16, 2014, consultation letters requesting comments on the projects located in the Dry Lake SEZ were sent to the Hopi Tribe, the Pahrump Paiute Tribe, the Moapa Band of Paiutes, the Las Vegas Paiute Tribe, the Fort Mojave Indian Tribe, the Colorado River Indian Tribes, the Timbisha Shoshone Tribe, the Chemehuevi Indian Tribe, the Kaibab Band of Paiutes, the San Juan Southern Paiute Tribe, and the Paiute Indian Tribe of Utah.

3.6.2 Applicable Laws, Regulations, Plans, and Standards

Federal agencies are also required to consider the effects of their actions on sites, areas, and other resources (e.g., plants) that are of significance to Native Americans as established under the American Indian Religious Freedom Act (Public Law 95-341). Native American human remains and burial grounds are protected by the Native American Graves Protection and Repatriation Act (Public Law 101-601).

3.6.3 Methodology

The following methods were used to evaluate impacts to Native American concerns:

- Tribal consultation process described in Section 4.1 of the EA.

3.6.4 Proposed Design Features

All appropriate design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to Native American concerns were identified in the Final Solar PEIS. The BLM reduced the developable area within the SEZ, including the project area, which resulted in increased distances from the project area to areas of tribal concern.

3.6.5 Environmental Consequences

3.6.5.1 PROPOSED ACTION

3.6.5.1.1 Solar PEIS Summary

The potential impacts to Native American concerns that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.18.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to cultural resources that are relevant to the Proposed Action is presented below. A summary of the related design features for cultural resources that have been fully analyzed in the PEIS is provided in Section 3.6.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. "Tribal representatives believe that solar energy development within the Dry Lake SEZ will adversely affect water sources such as the Apex Pleistocene Lake, Muddy River, Colorado River, and Virgin River; geological features such as the Arrow Canyon Range and Potato Woman; important places such as the Salt Song Trail and their mesquite groves; historical sites such as the Old Spanish Trail/Mormon Road, the railroad, Tabletop Mountain in Arrow Canyon, and the Moapa River Reservation; and traditional plant and animal resources (SWCA and University of Arizona 2011)" (BLM and DOE 2012:11.3-83).

3.6.5.1.2 Direct and Indirect Effects

The Hopi Tribe has responded by letter dated November 3, 2014, that the Dry Lake SEZ projects are unlikely to affect cultural resources significant to them. No additional impacts beyond those described in Section 3.6.5.1.1 above are anticipated.

3.6.5.1.3 Mitigation Measures

Application of the proposed design features would reduce impacts to Native American concerns. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation would adhere to the recommendations in the SRMS to offset the unavoidable adverse impacts to Native American concerns that would occur in the project area. Regional mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

3.6.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for direct impacts to Native American concerns is defined as the Dry Lake SEZ as well as the viewshed within a 25-mile (40-km) radius of the SEZ. Section 11.3.22.4.16 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to Native American concerns. The development of other projects in the Dry Lake SEZ would result in the modification of 2,359 acres of undeveloped public land. The Dry Lake SEZ also has a number of existing modifications to the setting. The level of change to the setting and feel of the surrounding area from all development in the SEZ would be beyond those previously built structures in the Area of Potential Effects. Other reasonably foreseeable future actions would have similar impacts, also in areas with existing modifications.

3.6.5.2 NO ACTION

3.6.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and Native American concerns would continue to be subject to ongoing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment and other sources ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to Native American concrens similar to those described under the Proposed Action.

3.6.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to Native American concerns, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to Native American concerns from that development would likely be similar or greater than those described in the Proposed Action section above.

3.7 Wildlife Excluding Federally Listed Species

3.7.1 Affected Environment

Fish and wildlife resources include invertebrates, fish, amphibians, reptiles, birds, and mammals, as well as their habitat.

3.7.1.1 GENERAL WILDLIFE

The entire project area occurs within typical habitat for desert wildlife species in Nevada. Wildlife species in the general area include small mammals, birds, and reptiles. No habitat for fish and amphibians occurs in or near the project area. The Mojave Desert ecoregion encompasses an ecologically diverse variety of landforms, soil types, moisture regimes, and vegetative communities. This variability creates habitats for numerous wildlife species. Wildlife population levels are linked to a variety of habitat factors. These include vegetation quality and quantity; adequate space, shelter, and cover; and water availability and distribution. These general wildlife species and their habitat are common and widely distributed throughout the area.

These data are consistent with the information for general wildlife species (amphibians, reptiles, birds, and mammals) presented in the affected environment section of the Final Solar PEIS (BLM and DOE 2012:11.3-35–11.3-40).

3.7.1.2 SENSITIVE SPECIES

The information regarding sensitive wildlife species in the Final Solar PEIS remains valid. These species include BLM sensitive species and State-listed species protected under Nevada Revised Statutes (NRS) 501 or NRS 527. Federally listed species are covered under Section 3.8 of this EA. There were 35 sensitive wildlife species identified in the Draft Solar PEIS and 10 additional sensitive wildlife species identified in the Final Solar PEIS. A list of the sensitive species in the Draft Solar PEIS is in Table 11.3.12.1-1 (BLM and DOE 2010:11.3-130–11.3-160) and a list of the additional sensitive species in the Final Solar PEIS is located in Table 11.3.12.1-1 (BLM and DOE 2012:11.3-43–11.3-48). These tables also show the overall impact of development in the Dry Lake SEZ on the specific species.

Sensitive species not identified in the PEIS with the potential to occur in the project area include Mojave shovel-nosed snake (*Chionactis occipitalis*), chuckwalla (*Sauromalus ater*), Bendire's thrasher (*Toxostoma bendirei*), bald eagle (*Haliaeetus leucocephalus*), Swainson's hawk (*Buteo swainsoni*), Lewis woodpecker (*Melanerpes lewis*), Allen's big-eared bat (*Idionycteris phyllotis*), western red bat (*Lasiurus blossevillii*), California leaf-nosed bat (*Macrotus californicus*), cave myotis (*Myotis velifer*), and fringed myotis (*Myotis thysanodes*).

3.7.2 Applicable Laws, Regulations, Plans, and Standards

3.7.2.1 GENERAL WILDLIFE

The BLM manages general wildlife habitat according to the BLM Las Vegas RMP. Fish and wildlife are managed by the BLM through policy set forth in BLM Manual 6840 – *Special Status Species Management* (BLM 2008c), BLM Manual 6500 – *Fish and Wildlife Conservation* (BLM 2008d), and BLM Manual 6720 — *Aquatic Resource Management* (BLM 2008e). In general, the BLM is not directly responsible for the management of wildlife populations but for the habitats that support wildlife.

3.7.2.2 SENSITIVE SPECIES

The BLM manages sensitive animal species according to BLM Manual 6840 (BLM 2008c). Wildlife conservation in the state of Nevada is guided by Nevada's Wildlife Action Plan (Nevada Department of Wildlife [NDOW] 2012) and protection is provided under NRS 501 and NRS 503. Additionally, bald and golden eagles are provided protection under the Bald and Golden Eagle Protection Act of 1940, as amended in 1962.

3.7.3 Methodology

3.7.3.1 GENERAL WILDLIFE

The following methods are used to evaluate impacts to general wildlife:

- GIS overlay of project components (short-term or long-term disturbance areas) with wildlife habitat.
- Review of NDOW/Nevada Natural Heritage Program (NNHP) species lists.

3.7.3.2 SENSITIVE SPECIES

The following methods are used to evaluate impacts to sensitive wildlife:

- GIS overlay of project components (short-term or long-term disturbance areas) with wildlife habitat.

3.7.4 Proposed Design Features

3.7.4.1 GENERAL WILDLIFE

Required programmatic design features are described in Section A.2.2 of Appendix A of the Final Solar PEIS (BLM and DOE 2012, Vol. 4). In addition, the Final Solar PEIS includes a specific design feature for mammals: to the extent practicable, the fencing around the solar energy development should not block the free movement of mammals, particularly big-game species (BLM and DOE 2012:Vol. 4, pg. 11.3-38).

3.7.4.2 SENSITIVE SPECIES

All appropriate and feasible design features outlined in Volume 4, Section 11.3.12.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented. Required surveys were identified during a BLM interdisciplinary team meeting on September 17, 2014.

Required surveys were identified during a BLM interdisciplinary team meeting on September 17, 2014. Impacts to sensitive bird and bat species would also be addressed though a Project-specific BBCS and Monitoring Plan that includes a robust systematic monitoring and adaptive management plan to assist in avoiding and minimizing impacts. Additionally, the design features specific to the project specific BO would be followed. These features are primarily designed to address impacts to federally listed species; however, many of them also benefit other sensitive wildlife species.

3.7.5 Environmental Consequences

3.7.5.1 GENERAL WILDLIFE

3.7.5.1.1 Proposed Action

3.7.5.1.1.1 Solar PEIS Summary

The potential impacts to general wildlife that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.11 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to general wildlife that are relevant to the Proposed Action is presented below. A summary of the related design features for general wildlife that have been fully analyzed in the PEIS is provided in Section 3.7.4.1 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document.

Development of the Dry Lake SEZ is expected to impact up to 5,717 acres of wildlife habitat. The reduction in the developable area of the Dry Lake SEZ would result in reduced habitat impacts for all representative wildlife species; resultant impact levels for all of the representative species would still be small (BLM and DOE 2012:11.3-35–11.3-40).

Impacts on wildlife would result from habitat disturbance, direct injury or mortality, and displacement of individual amphibians and reptiles. Those impacts on amphibian and reptile species would be small, with 0.2 to 0.4% of potentially suitable habitats identified for the species in the SEZ region being lost from development of the entire SEZ (BLM and DOE 2010:11.3-78–11.3-86). Similarly, 0.01 to 0.5% of potentially suitable habitat for birds (BLM and DOE 2010:11.3-104–11.3-105) and 0.07 to 0.6% of habitat for mammals (BLM and DOE 2010:11.3-108–11.3-122) would be lost from development of the SEZ. Other impacts on general wildlife could result from collision with vehicles and infrastructure (e.g., fences, panels), surface water and sediment runoff from disturbed areas, fugitive dust generated by project activities, noise, lighting, spread of invasive species, accidental spills, and harassment.

3.7.5.1.1.2 Direct and Indirect Effects

The type of impacts to general wildlife and suitable habitat are consistent with those described in Section 3.7.5.1.1 above. Specific to the Proposed Action, 717 acres of general wildlife habitat would be impacted in the long term and 8 acres of wildlife habitat would be impacted in the short term. This loss of habitat is consistent with the habitat loss described in the PEIS.

3.7.5.1.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to general wildlife, disturbance of 717 acres of habitat as a result of the Proposed Action would remain in the long term. During development of the Dry Lake SEZ SRMS, cumulative impacts to wildlife and sensitive wildlife were identified as an unavoidable impact which cannot be mitigated on-site. Wildlife habitat is an ecosystem service provided by native vegetation. Impacts and mitigation for vegetation will also benefit general wildlife and sensitive wildlife. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation may include restoration of native vegetation and site protection activities proposed as part of the SRMS and would benefit wildlife because they would also protect and restore habitat and reverse effects of habitat fragmentation. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

Any remaining impacts to sensitive bird and bat species would be addressed though a Project-specific BBCS and Monitoring Plan that includes a robust systematic monitoring and adaptive management plan to assist in avoiding and minimizing impacts. Because there are no additional on-site mitigation measures being proposed, impacts would remain unchanged from the direct/indirect impacts described above.

3.7.5.1.1.4 Cumulative Effects

The cumulative impacts area of analysis for general wildlife is defined as the Dry Lake SEZ and a 50-mile (80-km) radius around the SEZ. Section 11.3.22.4.10 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to general wildlife. No additional cumulative impacts are expected.

The Proposed Action, in conjunction with other projects, would result in cumulative impacts to wildlife species, including the potential loss of habitat. When combined with other reasonably foreseeable actions, and existing declines in the quality and quantity of native vegetation (which is a fundamental component of habitat) in the Las Vegas and Pahrump Field Offices, the Proposed Action would result in an incremental addition to current declines in the quality and quality of habitat available for general wildlife and BLM sensitive wildlife habitat. In addition the Proposed Action would result in an incremental addition to habitat fragmentation which for some species could lead to population declines and a reduction in long-term population viability.

It is assumed that all reasonable foreseeable future development on BLM lands in the SEZ and cumulative impacts area of analysis would be subject to the same design features and mitigation measures which reduce the potential cumulative impacts to general wildlife.

3.7.5.1.2 No Action

3.7.5.1.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and wildlife individuals and habitat would not be directly or indirectly impacted by the Project. Because the project area is located within the Dry Lake SEZ, the land would remain available for future Solar Energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to wildlife and wildlife habitat similar to those described under the Proposed Action.

3.7.5.1.3 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to wildlife and wildlife habitat, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to wildlife and wildlife habitat from that development would likely be similar or greater than those described in the Proposed Action section above.

3.7.5.2 SENSITIVE SPECIES

3.7.5.2.1 Proposed Action

3.7.5.2.1.1 Solar PEIS Summary

The potential impacts to general wildlife that may result from the construction and operations of a typical solar PV are described in section 11.3.12.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to sensitive wildlife that are relevant to the Proposed Action is presented below. A summary of the related design features for sensitive wildlife that have been fully analyzed in the PEIS is provided in section 3.7.4.2 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document.

Impacts on sensitive species could occur during all phases of development (construction, operation, maintenance, and decommissioning and reclamation) of a utility-scale solar energy project. Construction and operation activities could result in short- or long-term impacts on individuals and their habitats, especially if these activities are sited in areas where sensitive species are known to or could occur. Direct impacts would result from habitat destruction or modification. Indirect impacts could result from groundwater withdrawals, surface water and sediment runoff from disturbed areas, fugitive dust generated by project activities, accidental spills, harassment, and lighting (BLM 2010: 11.3-174 – 199; BLM and DOE 2012: 11.3-51 - 59).

3.7.5.2.1.2 Direct and Indirect Effects

The type of impacts to sensitive wildlife species and suitable habitat are consistent with those described in Section 3.7.5.2.1.1 above. Specific to the Proposed Action, 717 acres of wildlife habitat would be permanently impacted and 8 acres of wildlife habitat would be temporarily impacted. This loss of habitat is consistent with the habitat loss described in the PEIS.

Direct impacts include the possibility of sensitive species being crushed by vehicles or equipment, and increased local predation rates due to increased human activity. The amount of traffic, use of unfenced access roads, and presence of small animals create the possibility that individual sensitive species would be accidentally crushed by Project activity. This risk would be minimized by performing tortoise clearance surveys, installation of tortoise-proof fencing, and having monitors present during activities that may result in injuries to individual animals.

Indirect effects from noise and vibration associated with construction activities could cause some individual animals to abandon the project area. This would temporarily expose them to an increased risk of predation as they move away from the project area.

3.7.5.2.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to sensitive wildlife, disturbance of 717 acres of habitat as a result of the Proposed Action would remain in the long term. During development of the Dry Lake SEZ SRMS, cumulative impacts to sensitive wildlife were identified as an unavoidable impact which cannot be mitigated on-site. Wildlife habitat is an ecosystem service provided by native vegetation. Impacts and mitigation for vegetation will also benefit general wildlife and sensitive wildlife. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation may include restoration of native vegetation and site protection activities proposed as part of the SRMS and would benefit wildlife because

they would also protect and restore habitat and reverse effects of habitat fragmentation. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

Additionally, the measures from the Project-specific BO would be followed. These features are primarily designed to address impacts to federally listed species; however, many of them also benefit other sensitive wildlife species including burrowing owls (*Athene cunicularia*), Gila monster (*Heloderma suspectum*), and chuckwalla. Any remaining impacts to sensitive bird and bat species would be addressed though a Project-specific BBCS and Monitoring Plan that includes a robust systematic monitoring and adaptive management plan to assist in avoiding and minimizing impacts.

3.7.5.2.1.4 Cumulative Effects

The cumulative impacts area of analysis for sensitive species is defined as the Dry Lake SEZ and a 50-mile (80-km) radius around the SEZ. Section 11.3.22.4.10 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to sensitive species. No additional cumulative impacts are expected.

The Proposed Action, in conjunction with other projects, would result in cumulative impacts to sensitive wildlife species, including the potential loss of habitat. The combined effects of the reasonably foreseeable future actions have the potential to remove potential habitat and to increase risk of mortality of individual animals within the cumulative impacts area.

It is assumed that all reasonable foreseeable future development on BLM lands in the SEZ and cumulative impacts area of analysis would be subject to the same design features and mitigation measures which reduce the potential cumulative impacts to sensitive wildlife.

3.7.5.3 NO ACTION

3.7.5.3.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and special-status wildlife and habitat would not be directly or indirectly impacted by the Project. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to sensitive species similar to those described under the Proposed Action.

3.7.5.3.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to sensitive species, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to sensitive species from that development would likely be similar or greater than those described in the Proposed Action section above.

3.8 Migratory Birds

3.8.1 Affected Environment

Information on migratory birds presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-36–11.3-37). Almost all the birds that occupy the project area are considered to be migratory birds. The USFWS defines a migratory bird as any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle.

The planning area contains breeding, nesting, brood-rearing, and wintering areas, as well as migration routes that are important for migratory birds. All migratory birds that occur or pass through the planning area are covered under the Migratory Bird Treaty Act (MBTA) of 1918 and subsequent amendments (16 United States Code [USC] 703–711). The MBTA makes it unlawful to, among other things, pursue, hunt, take, capture, kill, or possess any migratory bird or part, nest, or egg of such bird listed in four separate wildlife protection treaties between the United States and Great Britain (on behalf of itself and Canada), Mexico, Japan, and the former Union of Soviet Socialist Republics. Some of these migratory birds are also federally listed or BLM sensitive species. Under authority of the Fish and Wildlife Conservation Act of 1980, as amended, the USFWS has also identified some migratory birds in the region as Birds of Conservation Concern

3.8.2 Applicable Laws, Regulations, Plans, and Standards

Under the MBTA, it is unlawful to take, kill, or possess migratory birds. Executive Order 13186, issued January 11, 2001, further defines the responsibilities of federal agencies to protect migratory birds. Additionally, bald and golden eagles are protected under both the MBTA and the Bald and Golden Eagle Protection Act. In addition to the MBTA, Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds, signed in January 2001) requires the BLM to evaluate the effects of federal actions on migratory birds. In addition, there is a Memorandum of Understanding between the BLM and USFWS to promote the conservation of migratory birds. The purpose of the Memorandum of Understanding is to strengthen migratory bird conservation by identifying and implementing strategies that promote conservation and avoid or minimize adverse impacts on migratory birds through enhanced collaboration between the two agencies, in coordination with state, tribal, and local governments.

To minimize unintentional take as defined by Executive Order 13186, the BLM has issued Washington Office IM 2008-050, *Migratory Bird Treaty Act–Interim Management Guidance* (BLM 2008b), to provide interim guidance to meet the BLM responsibilities under the MBTA, and IM 2010-156 (BLM 2010) for the Bald and Golden Eagle Protection Act. This provides the BLM with a consistent approach for addressing migratory bird populations and habitats. Currently, there are 1,007 species that are protected under the federal MBTA (USFWS 2012a).

3.8.3 Methodology

The following methods are used to evaluate impacts to migratory birds:

- The analysis makes use of the best available data, and the professional judgment of BLM specialists.
- Review of NDOW/NNHP species lists.
- The analysis also compares elements and timing of the Proposed Action and the project area boundary with suitable habitat.

3.8.4 Proposed Design Features

The Applicant must comply with the MBTA and avoid potential impacts to protected birds within the project area, and habitat-altering projects should be scheduled outside the bird breeding season, which generally occurs from February 15th through August 31st annually. If a project has to occur during the breeding season, then a qualified biologist must survey the area for nests immediately prior to commencement of construction activities. This shall include burrowing and ground-nesting species in addition to those nesting in vegetation. If any active nests are found, an appropriately-sized buffer area must be established and maintained until the young birds fledge. This buffer must connect to other suitable undisturbed habitat. As the above dates are a general guideline, if active nests are observed outside this range they are to be avoided as described above.

Migratory birds are known to collide with lighted structures, including buildings. Any lighting on facilities and associated infrastructure should be down-shielded to keep light within the boundaries of the site and the minimum amount and intensity allowable.

Due to potential for electrocution, collision, and nesting/perching by migratory birds on overhead power lines, the Applicant should follow Avian Power Line Interaction Committee (APLIC) guidelines (*Suggested Practices for Avian Protection on Power Lines* [APLIC 2006] and *Reducing Avian Collisions with Power Lines* [APLIC 2012]) to reduce this risk through facility design and comply with MBTA and other federal wildlife laws. Lattice structures and guy-wires shall not be used.

A Project-specific BBCS and Monitoring Plan would be prepared that includes a robust systematic monitoring and adaptive management plan to assist in avoiding and minimizing impacts to migratory birds.

3.8.5 Environmental Consequences

3.8.5.1 PROPOSED ACTION

3.8.5.1.1 Solar PEIS Summary

The potential impacts to migratory birds on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction, operations, maintenance, and decommissioning of a typical solar PV facility are described in Section 11.3.11.2.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to migratory birds that are relevant to the Proposed Action is presented below. A summary of the related design features for migratory birds that have been fully analyzed in the PEIS is provided in Section 3.8.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. Overall, because the SEZ is considered a small portion of the overall available habitat for the representative migratory bird species, the impacts to migratory birds would be small.

3.8.5.1.2 Direct and Indirect Effects

The Proposed Action has the potential to impact 717 acres in the long term and impact 8 acres in the short term through ground-disturbing activities. The impacts associated with the loss of habitat are consistent with those described in Section 3.8.5.1.1 above. Construction activities and increased vehicle traffic associated with the Proposed Action would result in an increased risk of injury and mortality to individual migratory birds in the project area from collisions. Birds are highly mobile and are assumed to be able to avoid vehicle traffic, clearing, grading, and excavation activities that would occur during the construction period. Construction activities would be restricted during nesting season, to further reduce the risk of injury or direct mortality of nesting migratory birds.

The increased noise associated with construction of the Proposed Action would be audible throughout the project area over the course of the construction phase. Increased noise would result in habitat avoidance and changes to breeding behavior of migratory birds in the project area.

The presence of a 715-acre solar PV facility would contribute to increased risk of collision with solar panels. There is the potential for solar projects to mimic a "lake effect" and act as an attractant to water birds and other birds leading to increased risk of collision, injury, and mortality.

The 3,575-foot-long, overhead 230-kV gen-tie line connecting to the Harry Allen substation is the only aboveground transmission line being added under the Proposed Action. The addition of the 230-kV line would result in an increased risk of electrocution to birds flying through the project area. Because the additional 230-kV transmission line would be in close proximity to other existing transmission lines, there would be a minor increase in the risk of electrocution to birds throughout the 30-year duration of the Project. In general, the risks of migratory injury or mortality from collisions with solar panels, fencing, buildings, and the gen-tie line would be small. If there are impacts that are not anticipated, the BBCS post construction monitoring and adaptive management plan would address these issues.

3.8.5.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to migratory birds, disturbance of 717 acres of habitat as a result of the Proposed Action would remain in the long term. During development of the Dry Lake SEZ SRMS, cumulative impacts to migratory birds were determined to be an unavoidable impact that could not be mitigated on-site. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Regional mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

Implementation of APLIC measures and the BBCS would reduce the risk of collision and electrocution. Implementation of adaptive management in compliance with the Project BBCS may result in the identification of future mitigation measures that would further compensate for any unacceptable mortality levels of migratory birds identified during monitoring.

3.8.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for migratory birds is defined as the Dry Lake SEZ and the Las Vegas and Pahrump Field Office boundaries. Section 11.3.22.4.10 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to migratory birds. The Proposed Action, in conjunction with other projects, would result in cumulative impacts on migratory birds, including the potential loss of habitat and increased risk of injury and mortality. The combined effects of the reasonably foreseeable future actions have the potential to remove suitable migratory bird habitat and to increase risk of mortality of individual animals within the cumulative impacts area.

It is assumed that all reasonable foreseeable future development on BLM lands in the SEZ and cumulative impacts area of analysis would be subject to the same design features and mitigation measures which reduce the potential cumulative impacts to migratory birds. In addition, other reasonably foreseeable future renewable energy actions would be required to prepare and implement a BBCS with monitoring and adaptive management in addition to complying with suggested APLIC BMPs.

3.8.5.2 NO ACTION

3.8.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and migratory birds would continue to be subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to migratory birds similar to those described under the Proposed Action.

3.8.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to migratory birds, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to migratory birds from that development would likely be similar or greater than those described in the Proposed Action section above.

3.9 Threatened, Endangered, and Candidate Animal Species

Special-status species include animals and plants that require specific management attention as a result of population or habitat concerns. The categories of these species include federally listed threatened and endangered species and their respective designated critical habitats, federally proposed species and proposed critical habitats, federal candidate species, and Nevada BLM sensitive species.

3.9.1 Affected Environment

Threatened and endangered (T&E) species are placed on a federal list by the USFWS and receive protection under the Endangered Species Act of 1973, as amended. According to the Information, Planning and Conservation (IPaC) support tool created by the USFWS, four federal T&E species have potential to occur in the vicinity of the project area: the endangered southwestern willow flycatcher, the endangered Yuma clapper rail, the threatened yellow-billed cuckoo, and the threatened Mojave desert tortoise.

The southwestern willow flycatcher, the Yuma clapper rail, and the yellow-billed cuckoo are riparian birds that require surface water, and no riparian habitat occurs in or near the project area. The project area is not within a path that would connect any aquatic features and the closest documented records for these species are 20 and 25 miles away (32 and 40 km away), respectively (personal communication, Susan Cooper, USFWS Las Vegas, and Melanie Cota, BLM Southern Nevada District, September 29, 2014). Suitable habitat for the desert tortoise does occur in the project area and the species has been documented in the project area. These data are consistent with the information for T&E species presented in the affected environment section of the Final Solar PEIS, which remains valid (BLM and DOE 2012:11.3-40–11.3-42). The PEIS identifies the project area as priority tortoise connectivity habitat based on a least-cost pathway model.

Biologists from SWCA Environmental Consultants surveyed the project area for desert tortoise between September 22 and October 3, 2014. Pre-project surveys followed USFWS guidance (pre-project clearance

and translocation guidance) and an existing 10(a)(1)(A) permit covered these activities. During tortoise surveys of the project area, seven live adult (>160 millimeter [mm]) above-ground desert tortoises were observed. Following the USFWS methods for calculating density (USFWS 2010), mean adult tortoise abundance was calculated as 14 (upper 95% confidence interval = 35, lower 95% confidence interval = 6), with a density of 4.83 per square kilometer (km^2). The mean adult tortoise density for the northeastern recovery unit where the Project occurs is 3.4/km^2 (USFWS 2011a). Table 8 provides a summary of tortoise densities prior to translocation from the project area.

Table 8. Summary of Desert Tortoise Densities in Project Vicinity Prior to Translocation

Site	Size (acres)	Adults (>160 mm)			Young (<160 mm)			Density (Adults/km^2)
		Estimate	Upper 95%	Lower 95%	Estimate	Upper 95%	Lower 95%	
Project area	717	14	35	6	84	211	34	4.83[±]
Northeastern Mohave Recovery Unit	5,106,939	N/A	N/A	N/A	N/A	N/A	N/A	3.4[#, *]

Source: [±]Ironwood (2014), [#] USFWS (2012b)

An initial 14,700-acre desert tortoise translocation area for the entire Dry Lake SEZ was identified by the BLM in consultation with the USFWS (see Figure 3). The initial translocation area north of the Dry Lake SEZ is located partially in the Coyote Springs ACEC. Desert tortoise surveys were completed for the translocation area between September 8 and October 17, 2014. A final translocation area will be designated within the initial translocation area following a USFWS and BLM approved Desert Tortoise Translocation Plan.

Historical survey data for the project area indicates that the area within the proposed SEZ project boundary is high- to moderate-density tortoise habitat and very low– to very high–density tortoise habitat within the proposed translocation area. High-value contagious habitat for desert tortoise is between 0.9 and 0.8 within the SEZ and between 0.9 and 0.7 for the translocation area. In addition, the SEZ boundary is within the least-cost corridor for the desert tortoise, known as habitat linkage for sustaining healthy populations.

3.9.2 Applicable Laws, Regulations, Plans, and Standards

T&E species on public land are managed under Section 7 of the ESA. Desert tortoise is also a listed threatened species under NRS 501 and NRS 503. Federally listed species are currently managed in accordance with USFWS recovery plans or conservation agreements; the ESA; and BLM policy for special-status species management (BLM Manual 6840) (BLM 2008c).

3.9.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action:

- Review of NDOW/NNHP species lists.
- Quantitative GIS analysis overlaying acres of surface disturbance with tortoise habitat.
- Quantitative GIS analysis overlaying acres of surface disturbance with tortoise connectivity corridor.
- Qualitative description of the tolerance of desert tortoise to construction noise and disturbance.

- Quantitative assessment of population densities before and after translocation.

3.9.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.12.3 and in Section A.2.2 of Appendix A in the Final Solar PEIS (BLM and DOE 2012) would be implemented.

3.9.5 Environmental Consequences

3.9.5.1 PROPOSED ACTION

3.9.5.1.1 Solar PEIS Summary

The potential impacts to T&E species that may result from the construction, operation, maintenance, and decommissioning of a typical solar PV facility in the Dry Lake SEZ are described in Section 11.3.12.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to T&E species that are relevant to the Proposed Action is presented below. A summary of the related design features for T&E species that have been fully analyzed in the PEIS is provided in Section 3.9.4 above.

The impacts and design features analyzed and described in the PEIS are incorporated into this document. Overall impacts to desert tortoise habitat are expected to be small (a loss of ≤1% of desert tortoise habitat in the region). There are dangers to tortoise associated with capture, handling, and translocation from the SEZ. Development of the SEZ may isolate and fragment tortoise populations by creating impediments to natural migration patterns (BLM and DOE 2012:11.3-51–11.3.52).

Consultation would identify potentially suitable recipient locations (i.e., the translocation area), density thresholds for tortoise populations in recipient locations, and procedures for pre-disturbance clearance surveys and tortoise handling, as well as disease testing and post-translocation monitoring and reporting requirements. Despite some risk of mortality or decreased fitness, translocation is widely accepted as a useful strategy for the conservation of the desert tortoise (Field et al. 2007).

3.9.5.1.2 Direct and Indirect Effects

The impacts to desert tortoise and suitable habitat are consistent with those described in Section 3.9.5.1.1 and are described below specific to the Proposed Action.

The Proposed Action has the potential to impact 717 acres in the long term and impact 8 acres in the short term of desert tortoise habitat, all of which is considered priority connectivity habitat. The loss of priority connectivity habitat was reduced through design features in the PEIS (BLM and DOE 2012, Volume 4, Section 11.3.12.3) which reduced the overall size of the Dry Lake SEZ. Remaining impacts would be offset through implementation of the SRMS for the Dry Lake SEZ (BLM 2014b).

Direct impacts include the possibility of tortoises being crushed by vehicles or equipment, and increased local predation rates due to increased human activity. The amount of traffic, use of unfenced access roads, and presence of small tortoises create the possibility that tortoises would be accidentally crushed by project activity. This risk would be minimized by performing clearance surveys, installation of tortoise-proof fencing, and having tortoise monitors present during activities that may injure or kill a tortoise. It is known that trash and litter may attract opportunistic predators such as coyotes and ravens, and this may lead to increased tortoise predation (Berry 1985; Esque et al. 2010). Predator subsidization would be addressed in environmental awareness programs and enforced by on-site authorized biologists to mitigate this risk.

Indirect effects from noise and vibration associated with construction activities could cause some tortoise to abandon their burrows and seek other existing cover sites. This would temporarily expose them to an increased risk of predation as they seek other burrows within their home range. In addition, desert tortoise mortality may result from increased human presence and construction-related traffic.

In addition, there is the potential for herbicides (used properly or improperly) to adversely impact desert tortoise. Possible adverse direct effects from direct contact or ingestion of treated vegetation to individual animals include death, damage to vital organs, decrease in body weight, decrease in healthy offspring, and increased susceptibility to predation depending on exposure length and amounts (Syracuse Environmental Research Associates, Inc. 2003). Adverse indirect effects include a reduction in plant species diversity and consequent availability of preferred food, habitat, and breeding areas; decrease in wildlife population densities within the first year following application as a result of limited reproduction; habitat and range disruption (as wildlife may avoid sprayed areas following treatment), resulting in changes to territorial boundaries and breeding and nesting behaviors; and increase in predation of small mammals due to loss of ground cover (BLM 2007a). Herbicide use would follow Pesticide Use Proposal guidance and would only take place within fenced areas.

Desert tortoise translocation would be completed following a USFWS-approved translocation plan for the Dry Lake SEZ (Ironwood 2014). Translocation of desert tortoise would directly impact the recipient area by increasing local population density and consumption of resources.. The Proposed Action would also directly impact any tortoise home ranges that overlap with the project area by removing all or part of the former territory and decreasing the quality of habitat surrounding the facility. Relocated tortoises would at a minimum be harassed during capture, transport, and release. It has been shown that translocated tortoises are at an increased risk of mortality if they void their bladders or are translocated during extreme temperatures (Averill-Murray 2002; USFWS 2013). As part of the approved Desert Tortoise Translocation Plan, recipient area densities would remain within acceptable levels as defined by translocation guidance (USFWS 2011b).

Resident tortoises may be affected within the project area due to local increases in population density. Translocated populations may encounter increased intra-specific interactions, an increased incidence of aggressive interactions between individuals, and an increased incidence of predation that may not have occurred in the absence of translocation. Density-dependent effects on resident populations are expected to be minor because USFWS guidance limits the number of tortoises that can be translocated based on the population densities for the recovery unit. Only tortoises determined to be healthy and asymptomatic will be translocated (USFWS 2011). Since there is not a 100% guarantee that the translocated tortoises are disease-free, there is still a minor risk that resident tortoises may be adversely affected due to the spread disease.

The Proposed Action would not result in adverse impacts to local or regional genetic connectivity of the desert tortoise population. A connectivity area is located to the northwestern boundary of the project area. This area was removed from the developable portion of the SEZ prior to the competitive auction. This connectivity area allows genetic connectivity to desert tortoise moving through the region.

Impacts to Yuma clapper rail and yellow-billed cuckoo are not discussed in the PEIS; however, impacts would be similar to those described for southwestern willow flycatcher. Suitable habitat for southwestern willow flycatcher, the Yuma clapper rail, and the yellow-billed cuckoo does not occur within or near the project area. No southwestern willow flycatcher mortalities have been recorded at existing solar facilities and the lack of habitat and long distance from any known occurrence suggests low potential for direct morality related to the Proposed Action. Two Yuma clapper rails have been recorded as mortalities at existing solar facilities in California; however, those facilities were much closer to suitable habitat and had observations within less than 5 miles (8 km) (personal communication, Susan Cooper, USFWS Las

Vegas, and Melanie Cota, BLM Southern Nevada District, September 29, 2014). One yellow-billed cuckoo mortality has been recorded at a solar facility in Ivanpah in San Bernardino County, California. For Yuma clapper rail and yellow-billed cuckoo, the low number of recorded mortalities, the lack of habitat on-site, and the long distance from any known occurrence suggests low potential for direct morality related to the Proposed Action. No water pumping would occur from the Project so indirect impacts are not anticipated from the Proposed Action to either species.

3.9.5.1.3 Mitigation Measures

Mitigation for desert tortoise would be addressed through measures outlined in the BO and would be supported by the desert tortoise fees paid to the BLM. The Project will also require a Raven Management Plan to comply with the ESA and BO. The Applicant will be required to pay remuneration fees for loss of habitat that will be based on the current year's rate of $836/acre of disturbance. This rate is subject to change if fees are paid after March 1, 2015. Each proposed project within the SEZ boundary will require a Biological Assessment that outlines project actions and avoidance and minimization measures to protect the species. A Project-specific BO will be issued that will include non-discretionary reasonable and prudent measures and terms and conditions to minimize take and be exempted from Section 9 of the ESA. Mitigation for birds would be addressed by the development and implementation of a Project-specific BBCS.

Implementation of the SRMS for the Dry Lake SEZ (BLM 2014b) does not specifically address desert tortoise mitigation. However, the SRMS would indirectly benefit the species thorough improvements to habitat.

3.9.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for T&E species is defined as the Dry Lake SEZ and a 50-mile (80-km) radius around the SEZ. Section 11.3.22.4.10 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to migratory birds. The 717 acres of BLM land that would be developed for the Proposed Action is part of the Dry Lake SEZ. Desert tortoises from other areas in the Dry Lake SEZ would also be translocated to the proposed translocation area with tortoises from the project area following the Dry Lake SEZ Translocation Plan (Ironwood 2014). It is estimated that the total number of desert tortoises in the Dry Lake SEZ that would need to be relocated is 372 tortoises: 58 adults with a 95% confidence interval of 29–116 and 314 juveniles with a 95% confidence interval of 155–636. The translocation area population would be impacted by the increased tortoise density and the decrease in available resources; however, the density following translocation would still be within the acceptable level for a translocation site in the Northeastern Mohave Recovery Unit (USFWS 2011). Cumulative impacts would be addressed through implementation of the SRMS for the Dry Lake SEZ (BLM 2014b).

Because habitat for the southwestern willow flycatcher, the Yuma clapper rail, and the yellow-billed cuckoo does not occur within or near the project area, the Proposed Action, in conjunction with other projects, would not contribute to cumulative impacts on habitat for these listed bird species.
The combined effects of the reasonably foreseeable future actions do have the potential to increase risk of mortality of individual animals within the cumulative impacts area.

3.9.5.2 NO ACTION

3.9.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and desert tortoise individuals and tortoise habitat would not be directly or indirectly impacted by the Project. Because the project area is

located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, necessary facilities, need for desert tortoise translocation, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to listed species similar to those described under the Proposed Action.

3.9.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to listed species, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to listed species from that development would likely be similar or greater than those described in the Proposed Action section above.

3.10 Vegetation Excluding Federally Listed Species

3.10.1 Affected Environment

3.10.1.1 GENERAL VEGETATION

Information for vegetation presented in the affected environment Section 11.3.10.1 of the Final Solar PEIS remains valid (BLM and DOE 2012).Vegetation cover types described and mapped under the Southwest Regional Gap Analysis Project (U.S. Geological Survey 2004) were used to evaluate plant communities in the proposed project area. Land cover types occurring within the potentially affected area of the proposed project area are shown in Figure 4. Table 9 lists the surface area of each cover type within the project area.

Table 9. Vegetation Cover Types in the Proposed Project Area

Vegetation Cover Type	Acres	Percent
Sonora-Mojave Creosote-White Bursage Desert Scrub	703	97%
Sonora-Mojave Mixed Salt Desert Scrub	22	3%

Sonora-Mojave Creosote-White Bursage Desert Scrub is the predominant cover type within the project area and in the Dry Lake SEZ. According to the PEIS, creosote bush and white bursage (*Ambrosia dumosa*) are the dominant species observed in the desert scrub communities throughout most of the SEZ, with scattered Mojave yucca in some areas. The other plant community found in the project area is Sonora-Mojave Mixed Salt Desert Scrub. Descriptions for these plant communities are provided below.

3.10.1.1 SPECIAL-STATUS SPECIES

Information for special-status plants presented in the affected environment Section 11.3.12.1 of the Final Solar PEIS remains valid (BLM and DOE 2012). These species include BLM sensitive plant species and plants protected in the state of Nevada under NRS 527. There are no federally listed plant species that occur in the project area.

Figure 4. Vegetation cover types in the project area.

The rosy two-tone penstemon (*Penstemon bicolor* ssp. *roseus*) is a BLM sensitive plant species that is known to occur adjacent to the SEZ, and the SEZ contains suitable habitat for the species. There are nearby populations of three-corner milkvetch (*Astragalus geyeri* var. *triquetrus*) and Beaver Dam breadroot (*Pediomelum castoreum*), which are also BLM sensitive plant species.

3.10.2 Applicable Laws, Regulations, Plans, and Standards

3.10.2.1 GENERAL VEGETATION

The BLM manages vegetation resources according to the BLM Las Vegas RMP (BLM 1998).

3.10.2.2 SPECIAL-STATUS SPECIES

The BLM manages special-status plant species according to BLM Manual 6840 (BLM 2008c). Protection of Nevada special-status plant species is provided under NRS 527.050 and NRS 527.260–527.300.

3.10.3 Methodology

3.10.3.1 GENERAL VEGETATION

The following methods are used to evaluate impacts from the Proposed Action facility:

- Prepare a GIS overlay of project components (short-term or long-term disturbance areas) with mapped vegetation communities. The impacts analysis presented in the Final PEIS Section 11.3.10.2 is also incorporated by reference.

3.10.3.2 SPECIAL-STATUS SPECIES

The following methods are used to evaluate impacts from the Proposed Action facility:

- The impacts analysis presented in the Final PEIS Section 11.3.12.2 is incorporated by reference (BLM and DOE 2012:11.3-51–11.3-52).

3.10.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented. In addition, SEZ-specific design features outlined in Section 11.3.10.3 of the PEIS would be implemented (BLM and DOE2012:11.3-34). In addition, the following plans would be prepared and implemented that would further reduce impacts to vegetation:

- Fire Protection Plan
- Noxious Weed Management Plan
- Decommissioning and Site Reclamation Plan

3.10.5 Environmental Consequences

3.10.5.1 GENERAL VEGETATION

3.10.5.1.1 Proposed Action

3.10.5.1.1.1 Solar PEIS Summary

The potential impacts to vegetation resources on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.10.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to general vegetation that are relevant to the Proposed Action is presented below. A summary of the related design features for general vegetation that have been fully analyzed in the PEIS is provided in Section 3.10.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. The construction of solar energy facilities within the Dry Lake SEZ would result in the removal of vegetation during land-clearing activities and would result in a moderate loss of the Sonora-Mojave Creosote-White Bursage Desert Scrub cover type (BLM and DOE 2012:11.3-32).

3.10.5.1.1.2 Direct and Indirect Effects

The construction of solar energy facilities within the proposed project area would result in direct impacts on plant communities because of the removal of vegetation within the facility footprint during land-clearing and land-grading operations. Table 10 summarizes the direct short-term and long-term impacts to the vegetation cover types in the project area. The acres of disturbance are consistent with those described in the PEIS.

Table 10. Vegetation Impacts

Vegetation Cover Type	Short-Term Disturbance (acres)	Long-Term Disturbance (acres)
Sonora-Mojave Creosote-White Bursage Desert Scrub	8	695
Sonora-Mojave Mixed Salt Desert Scrub	0	22

3.10.5.1.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to vegetation, disturbance of 717 acres of vegetation as a result of the Proposed Action would remain in the long term. During development of the Dry Lake SEZ SRMS, cumulative impacts to vegetation were identified as an unavoidable impact which cannot be mitigated on-site. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation may include restoration of native vegetation and site protection activities proposed as part of the SRMS and would benefit wildlife because they would also protect and restore habitat and reverse effects of habitat fragmentation. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

Because there are no additional on-site mitigation measures being proposed, impacts would remain unchanged from the direct/indirect impacts described above.

3.10.5.1.1.4 Cumulative Effects

During development of the Dry Lake SEZ SRMS, cumulative impacts to native vegetation and the ecosystem services they provide were identified by BLM resource specialists as an unavoidable impact which cannot be mitigated on-site. The Sonoran-Mojave Creosote-White Bursage Desert Scrub and North American Warm desert wash communities that occur within the project area are generally widespread and present throughout the Mojave Ecoregion. These vegetation communities provide a variety of ecosystem services with direct and indirect economic benefits to humans such as wildlife habitat, soil, water, and air protection; a setting for recreation; and are an important component of the viewshed. For cumulative impacts the area of analysis is the lands administered by the Las Vegas and Pahrump Field Offices. Both vegetation communities are widespread within this area; however both are a limited and finite resource. When combined with other reasonably foreseeable actions and the cumulative scenario described in Section 3.2, the proposed action would result in an incremental addition to current declines in the quality and quality of native vegetation in the analysis area. Off-site mitigation for cumulative effects to native vegetation and its ecosystem services will ensure the Proposed Action does not contribute to current declines in the native plant communities and will allow BLM to fulfil its sustainable and multiple use mission under the FLPMA. As described in Section 3.2, a major reason impacts to vegetation in the Mojave Desert are cumulative is because of the extremely slow rate of natural recovery. Restoration (seeding and soil decompaction) funded by off-site mitigation funds does not replace natural recovery, but it can speed the rate. Increased resource protection is beneficial because native vegetation and soils in the Mojave can be fragile. As little as one pass from a vehicle can create a new road, unless steps are taken to prevent additional disturbance. Off-site mitigation funds will help to prevent new damage to vegetation as well as early detection and protection that will lessen impacts.

3.10.5.1.2 No Action

3.10.5.1.3 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and vegetation would continue to be managed consistent with the objectives of the BLM Las Vegas RMP. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to vegetation similar to those described under the Proposed Action.

3.10.5.1.4 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to vegetation, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to vegetation from that development would likely be similar or greater than those described in the Proposed Action section above.

3.10.5.2 SPECIAL-STATUS SPECIES

3.10.5.2.1 Proposed Action

3.10.5.2.1.1 Solar PEIS Summary

The potential impacts to special-status plants on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.12.2 of the Final Solar PEIS and are consistent with the Proposed Action.

3.10.5.2.1.2 Direct and Indirect Effects

The project may result in the direct loss of individual plants and suitable habitat for rosy two-tone penstemon. Nearby populations of other BLM sensitive plant species including three-corner milkvetch and Beaver Dam breadroot may also be indirectly impacted if the Proposed Action leads to the introduction and spread of invasive species.

3.10.5.2.1.3 Mitigation Measures

Disturbance of 717 acres of vegetation, including suitable habitat for rosy two-tone penstemon, as a result of the Proposed Action would remain in the long term. Mitigation would adhere to the recommendations in the SRMS to offset the unavoidable adverse impacts to rosy two-tone penstemon habitat that would occur in the project area. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation may include restoration of native vegetation and site protection activities proposed as part of the SRMS and would benefit wildlife because they would also protect and restore habitat and reverse effects of habitat fragmentation. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

Because there are no additional on-site mitigation measures being proposed, impacts would remain unchanged from the direct/indirect impacts described above.

3.10.5.2.1.4 Cumulative Effects

During development of the Dry Lake SEZ regional mitigation strategy, cumulative impacts to BLM special-status plant species, including the rosy two-tone penstemon, were identified by BLM resource specialists as an unavoidable impact which cannot be mitigated on-site. Development of the Project will result in cumulative loss of occupied and potential rosy two-tone penstemon habitat. Mitigation may be provided for rosy two-tone penstemon as part of the off-site mitigation fee. The incremental loss of populations is the single largest threat to rare plant species. If left unchecked, the incremental decline will ultimately result in protection under the ESA. Under the BLM special-species manual, BLM has a responsibility to implement management actions that will preclude the need for federal listing. Off-site conservation through the Center for Plant Conservation would conserve the genetic diversity of rosy two-tone penstemon populations in the Dry Lake SEZ. If necessary this material will be available for future population management and restoration efforts.

3.10.5.2.2 No Action

3.10.5.2.3 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and special-status plants would continue to be managed consistent with the objectives of the BLM Las Vegas RMP and BLM Manual

6840. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to special status plant species similar to those described under the Proposed Action.

3.10.5.2.4 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to special status plant species vegetation, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to vegetation from that development would likely be similar or greater than those described in the Proposed Action section above.

3.11 Invasive Species and Noxious Weeds

3.11.1 Affected Environment

Information on invasive species and noxious weeds presented in the affected environment section of the Final Solar PEIS (BLM and DOE 2012:11.3-34) remains valid except where noted below. Southern Nevada lands are impacted by the presence of noxious and invasive, non-native vegetation. The Dry Lake SEZ was inventoried for weeds in 2014, and populations of red brome were observed along roadsides and in water collection areas. Existing ROW corridors in the SEZ are known to have populations of both Malta star-thistle (*Centaurea melitensis*) and Sahara mustard (*Brassica tournefortii*), both listed as noxious weeds in Nevada.

Other weed species of concern include camelthorn (*Alhagi maurorum*), perennial pepper weed (*Lepidium latifolium*), Russian knapweed (*Acroptilon repens*), yellow star-thistle (*Centaurea solstitialis*), Johnsongrass (*Sorghum halepense*), Scotch cottonthistle (*Onopordum acanthium*), Canada thistle (*Cirsium arvense*), fountaingrass (*Pennisetum setaceum*), puncturevine (*Tribulus terrestris*), tamarisk (*Tamarix ramosissima*), and halogeton (*Halogeton glomeratus*).

3.11.2 Applicable Laws, Regulations, Plans, and Standards

Invasive plants and noxious weeds are managed on public lands by the BLM under the direction of the National Invasive Species Council established in 1999 (Executive Order 13112). This statute defines invasive species as "an alien (non-native) species whose introduction does, or is likely to cause, economic or environmental harm or harm to human health" (National Invasive Species Council 2008). In addition, much of the management of invasive plants and the listing of noxious weeds are regulated by the U.S. Department of Agriculture under the Federal Noxious Weed Act (7 USC 2801 et seq. 1974).

Executive Order 13112 outlines the federal responsibility to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause." Additionally NRS 555.05 defines "noxious weeds" and mandates the extent that landowners and land management agencies must control specific noxious weed species on lands under their jurisdiction.

The BLM Las Vegas Field Office has prepared the *Noxious Weed Plan* (BLM 2003) that provides guidance for an active integrated weed management program using BMPs.

3.11.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- The analysis makes use of the best available data, and the professional judgment and field observations of BLM specialists. The analysis also compares elements of the Proposed Action and the project area boundary with the habitat and describes the risk of spread and introduction of new weeds in those disturbed areas.

3.11.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

An Integrated Weed Management Plan would be prepared in coordination with the BLM. Invenergy Solar proposes to reduce and control invasive plants within the project area by using herbicides in combination with manual methods to lessen the potential for the dispersal or increased abundance of existing and any new non-native, invasive plant species. A Fire Protection Plan would be prepared to minimize the occurrence of unwanted human-caused and naturally caused fires. The plan would describe an emergency notification procedure, site evacuation process, and fire prevention procedures.

3.11.5 Environmental Consequences

3.11.5.1 PROPOSED ACTION

3.11.5.1.1 Solar PEIS Summary

The potential impacts from invasive species and noxious weeds on lands in the Dry Lake SEZ and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.10.2.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts that are relevant to the Proposed Action is presented below. A summary of the related design features for invasive species and noxious weeds that have been fully analyzed in the PEIS is provided in Section 3.11.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. Disturbance as a result of construction and operation activities in the Dry Lake SEZ could potentially result in the establishment and/or expansion of noxious weeds and invasive species populations despite required design features to prevent the spread of noxious weeds. Existing disturbance within the SEZ may contribute to the establishment of noxious weeds and invasive species. There are approximately 128 acres of disturbed lands within the SEZ and approximately 441 acres in the area of indirect effects. "Impacts, such as reduced restoration success and possible widespread habitat degradation, could still occur; however, a small reduction in the potential for such impacts would result from the reduced developable area of the SEZ" (BLM and DOE 2012:11.3-75-76).

3.11.5.1.2 Direct and Indirect Effects

The Proposed Action has the potential to impact 717 acres in the long term and impact 8 acres in the short term through ground-disturbing activities by introducing and/or exacerbating current weed populations. Construction associated with the Proposed Action would involve activities such as clearing and tilling which would result in a decrease in native plant cover and increased soil disturbance. Vegetation removal provides an opportunity for non-native weeds species to colonize the project area. Noxious and/or

invasive weeds effectively compete with native species for sunlight, soil, water, nutrients, and space, reducing forage productivity. Additionally, soil disturbance could reduce the native seed bank associated with the site.

Increased vehicle traffic during all phases of the Proposed Action would also contribute to the potential spread of noxious and/or invasive weeds. Vehicles are effective at introducing and/or spreading weeds by dispersing seeds along roadways.

Increased vehicle activity also has the potential to spread non-native invasive annual grasses. Studies suggest that the Mojave Desert is threatened by the spread of non-native, invasive annual grasses which results in increased fire and loss of natural resources (Brooks 1998). Although the non-native annual grasses are not legally designated as noxious by the State of Nevada, their role within the Mojave Desert ecosystem is increasingly important with respect to their relationship to fire and future disturbance. The increase of fine fuels may result in ignitions and ultimately increase the number of wildfires in the area. Aggressively managing invasive or noxious species would limit residual effects to manageable levels. This is made possible by maintaining discontinuous, dispersed native vegetation, nonflammable native species, propagation and planting of native species, or complete removal of all vegetation. In addition, for the life of the Project, fires originating outside of the project area on adjacent lands could impact the project area. These areas have had increased wildfire risk over time due to invasive annual grasses.

3.11.5.1.3 Mitigation Measures

Implementation of standard BMPs and project stipulations would help identify, prevent, and treat the spread of noxious and/or invasive species. No additional mitigation measures have been identified and the remaining impacts from noxious weeds and invasive species would be negligible.

3.11.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for noxious weeds and invasive species is the Dry Lake SEZ and a 50-mile (80-km) buffer around the SEZ. Section 11.3.22.4.9 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to noxious weeds and invasive species. The Proposed Action would contribute to the cumulative impacts from noxious weeds and invasive species. The Proposed Action, in conjunction with other projects, would result in cumulative impacts on native vegetation communities, including the potential spread of noxious and/or invasive weeds. The combined effects of the reasonably foreseeable future actions have the potential to increase the rate at which the noxious and invasive weeds colonize lands with the cumulative impacts area.

It is assumed that all reasonable foreseeable future development on BLM lands in the SEZ and cumulative impacts area of analysis would be subject to the same design features and mitigation measures which reduce the potential cumulative increases in noxious weeds and invasive species. In addition, other reasonably foreseeable future actions that would result in ground-disturbing activities would be required to comply with the Las Vegas Field Office Noxious Weed Plan (BLM 2003).

3.11.5.2 NO ACTION

3.11.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and invasive species and noxious weeds would continue under current conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts from invasive species and noxious weeds similar to those described under the Proposed Action.

3.11.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to invasive species and noxious weeds there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts from invasive species and noxious weeds from that development would likely be similar or greater than those described in the Proposed Action section above.

3.12 Forestry Resources

3.12.1 Affected Environment

Two different forestry program vegetative resources are present in the Dry Lake SEZ and are affected by the Proposed Action: native seed, and cactus and yucca plants. Native seed, collected by commercial vendors under a BLM-issued permit, is important for revegetation, mine reclamation, habitat restoration, and fire rehabilitation of private and public lands. Individual cactus and yucca plants, sold to the public under a permit, are considered wildlings and are in demand for drought-tolerant and native plant landscaping as well as habitat restoration and reclamation projects on public lands.

On average, the Las Vegas Field Office has issued one commercial collection permit for the area every 2 to 3 years. The primary native species collected in the area are creosote bush, bursage, and globemallow (*Sphaeralcea ambigua*). In addition, the proposed project area contains stands of galleta grass (*Pleuraphis* sp.) suitable for commercial seed collection.

3.12.2 Applicable Laws, Regulations, Plans, and Standards

The BLM administers the sale of forest products and other vegetative resources under 432 CFR 5400. Nevada IM-NV-2010-055 and draft IM-NV-2014-013 clarify and provide guidance for the disposal, sale, and pricing of forest products on BLM lands in the state.

3.12.3 Methodology

A density estimate of the number of cactus and yucca plants present within the project area was completed and used to evaluate impacts to the forestry program.

3.12.4 Proposed Design Features

All appropriate and feasible design features outlined in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

3.12.5 Environmental Consequences

3.12.5.1 PROPOSED ACTION

3.12.5.1.1 Solar PEIS Summary

The potential impacts to forestry program concerns that may result from the construction and operation of a typical solar PV facility are described in Section 11.3.10.2 of the Final Solar PEIS, and the impacts from this Project would be consistent with those described.

3.12.5.1.2 Direct and Indirect Effects

The Proposed Action would result in the loss of approximately 717 acres within the Dry Lake Valley seed-collection area. Opportunities for commercial contractors to collect native seed on public lands are limited by stand location and the density of target species. The Proposed Action would directly affect the ability of the BLM to issue future seed-collection contracts to native-seed collectors in the area. Because many of the target species occur elsewhere, the reduction in seed collection would be negligible. However, the loss of this area for commercial galleta grass seed collection would be moderate.

It is estimated that 48,653 cactus and yucca plants are present within the proposed project area and would be impacted by the Proposed Action.

3.12.5.1.3 Mitigation Measures

Because of the Project timing, scheduling a commercial salvage contract may not be practical and Invenergy Solar may agree to purchase cactus and yucca at a salvage sale price determined by the BLM Nevada State Office.

3.12.5.1.4 Cumulative Effects

It is assumed that all reasonable foreseeable future development on BLM lands in the SEZ and cumulative impacts area of analysis would be subject to the same design features and mitigation measures which reduce the potential cumulative impacts to forestry program concerns.

3.12.5.2 NO ACTION

3.12.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and forestry resources would continue under current conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to forestry resources similar to those described under the Proposed Action.

3.12.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to forestry resources, there would be no cumulative impacts associated with the No Action Alternative. If the BLM

authorized some form of solar development in this location in the future, the cumulative impacts to forestry resources from that development would likely be similar or greater than those described in the Proposed Action section above.

3.13 Geology and Mineral Resources

3.13.1 Affected Environment

Information for geology and mineral resources presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-10, 11.3-16). BLM-administered lands are available for the exploration and development of mineral resources. The General Mining Law of 1872, as amended, opened public lands of the United States to mineral acquisition by the location and maintenance of mining claims. Mineral deposits subject to acquisition in this manner are generally referred to as "locatable minerals," and include gypsum and lime in the project area. "As of September 17, 2010, there were a number of active mining claims, both lode and placer located, in Sections 13 and 14, Township 18S, Range 63E, in the very southern tip of the proposed Dry Lake SEZ" (BLM 2012a:11.3-51). Following the reduction in size of the SEZ, there are no active mining claims in the SEZ, and therefore no active mining claims in the project area.

3.13.2 Applicable Laws, Regulations, Plans, and Standards

Mineral materials within the project area are public property and administered by the BLM under the regulations at 43 CFR 3600 (Mineral Materials Disposal) and the Federal Aid to Highway Act. Mineral materials area authorized for disposal by the Las Vegas RMP (BLM 1998). The regulations at 43 CFR 3600 establish procedures for the exploration, development, and disposal of mineral material resources on public lands, and for the protection of the resources and environment. The regulations apply to free use permits and contracts for the sale of mineral materials.

The sale, free use, or issuance of a material site ROW for mineral materials must be conformance with the RMP mineral management section, the Federal Aid to Highway Act, and the regulations found at 43 CFR 3600. Any mineral materials extracted, severed, or removed from public lands without a contract, free use permit, or material site ROW constitutes unauthorized use.

3.13.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- The analysis makes use of the best available data, and the professional judgment and field observations of BLM specialists. The analysis also compares an overlay of the project area on areas with active mining and areas. This was completed in the Final Solar PEIS.

3.13.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented. No SEZ-specific design features to address impacts to geology and minerals were identified in the Final Solar PEIS. The BLM reduced the developable area within the SEZ, including the project area, which resulted in the removal of active mining claims from the developable area of the SEZ.

3.13.5 Environmental Consequences

3.13.5.1 PROPOSED ACTION

3.13.5.1.1 Solar PEIS Summary

The potential impacts to geology and mineral resources on lands in the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.8.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts that are relevant to the Proposed Action is presented below. A summary of the related design features for geology and mineral resources that have been fully analyzed in the PEIS is provided in Section 3.13.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. "As of September 17, 2010, there were a number of active mining claims, both lode and placer located, in Sections 13 and 14, Township 18S, Range 63E, in the very southern tip of the proposed Dry Lake SEZ" (BLM and DOE 2012:11.3-51). Following the reduction in size of the SEZ, there are no active mining claims in the project area identified.

3.13.5.1.2 Direct and Indirect Effects

The Proposed Action has potential to produce excess mineral materials. Any mineral materials produced as a result of the Proposed Action would be used on site, or stockpiled on site for future use on site. Invenergy Solar would obtain all necessary permits or additional ROWs before removing excess mineral materials from the project site.

If a contract, free use permit or material site ROW is necessary for the export of excess mineral materials or the import of federally owned mineral materials, the BLM may issue the required contract, free use permit or material site ROW.

3.13.5.1.3 Mitigation Measures

All mineral materials need to be used on site within the ROW or stockpiled on site for disposal by the BLM. If mineral materials are stockpiled on site for future disposal by the BLM, a mineral material contract, free use permit or material site ROW must be issued by the BLM before those mineral materials may be used.

3.13.5.1.4 Cumulative Effects

Because the Proposed Action would not result in impacts to geology and mineral resources, there would be no contribution to cumulative impacts.

3.13.5.2 NO ACTION

3.13.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and geology and minerals would not be directly or indirectly impacted. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different

PV project could be constructed and presumably would result in impacts to geology and mineral resources similar to those described under the Proposed Action.

3.13.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to geology and mineral resources, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to geology and mineral resources from that development would likely be similar or greater than those described in the Proposed Action section above.

3.14 Soils

3.14.1 Affected Environment

Information for soil resources presented in the affected environment section of the Final Solar PEIS remains valid. Soils within the project area are very gravelly and stony loams of the Colorock–Tonopah. These moderately sloping soils are derived alluvium from sedimentary rocks (mainly carbonates); some soils (particularly those of the Colorock series) have well-developed pavements. They are characterized as deep and well to excessively drained. Most of the soils on the site have a high surface runoff potential and moderate permeability (BLM and DOE 2012:11.3-12).

In addition, biotic soil crusts and desert pavement exist throughout the Mojave Desert and are present in the project area. Biological soil crusts are matrices of soil particles on the surface of the soil that comprise cyanobacteria, mosses, lichens, and bacteria (Williams et al. 2013). Desert pavement is a soil feature that refers to the interlocking rock fragments on the surface of the soil with sparse plant cover (Williams et al. 2013).

3.14.2 Applicable Laws, Regulations, Plans, and Standards

Soils within the project area are managed under the authority of the Federal Clean Water Act, as amended (33 USC 1251 et seq.) and Chapter 445A of the NRS.

3.14.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- The analysis makes use of the best available data, and the professional judgment and field observations of BLM Specialists. The analysis also compares a GIS overlay of the U.S. Department of Agriculture soil map of the project area to identify soil types, runoff, and erosion potential. A qualitative evaluation of potential for soil crusts and desert pavement to exist in the project area was also prepared.

3.14.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

On the basis of impact analyses conducted for the Final Solar PEIS, updates to those analyses due to changes to the SEZ boundaries, and consideration of comments received as applicable, no SEZ-specific design features for soil resources have been identified at the proposed Dry Lake SEZ (BLM and DOE 2012).

3.14.5 Environmental Consequences

3.14.5.1 PROPOSED ACTION

3.14.5.1.1 Solar PEIS Summary

The potential impacts to soil resources on lands in the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.5.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to soils that are relevant to the Proposed Action is presented below. A summary of the related design features for soils that have been fully analyzed in the PEIS is provided in Section 3.14.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. Impacts on soil resources would occur mainly as a result of ground-disturbing activities (e.g., grading, excavating, and drilling), especially during the construction phase of a solar project. Because impacts on soil resources result from ground-disturbing activities in the project area, soil impacts would be roughly proportional to the size of a given solar facility, with larger areas of disturbed soil having a greater potential for impacts than smaller areas (BLM and DOE 2012).

Activities in the SEZ have the potential to directly impact soil resources through compaction and erosion. Soil loss may occur through sediment transport. Indirect impacts include increased runoff to the Dry Lake Basin, increased wind erosion due to grading and soil contamination due to spills.

3.14.5.1.2 Direct and Indirect Effects

The Proposed Action has the potential to impact 717 acres in the long term and 8 acres in the short term through ground-disturbing activities. The impacts associated with the loss of soils are consistent with those described in Section 3.14.5.1.1 above.

In addition to the impacts listed above in the Final PEIS, the development of the Proposed Action has the potential to cause loss of biological soil crusts and desert pavement. Biological soil crusts increase water holding capacity and nutrient availability of surface soils and cause dust accumulation which prevents wind erosion of surface soils (Williams et al. 2013). Loss of the biological soil crusts would increase erosion potential of surface soils and decrease available water and nutrients to nearby plant communities. Loss of desert pavement would decrease surface soil stability and increase wind erosion potential.

3.14.5.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to soils; disturbance of 717 acres of soils as a result of the Proposed Action would remain in the long term. Impacts from this Project warrant off-site mitigation. Mitigation would be adherence to the recommendations in the SRMS to offset the unavoidable adverse impacts to soils that would occur in the project area. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project to mitigate for soil impacts (ecosystem services lost by irreversible loss of desert pavement and biological soil crusts). The BLM will decide the amount of those funds as part of the decision record. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

3.14.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for soils is Hydrographic Basin 216. Section 11.3.22.4.6 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to soils. The Proposed Action would contribute to the cumulative impacts on soil resources in the basin. The cumulative loss of

soils for the entire Dry Lake SEZ would be 2,359 acres. Cumulative impacts to soils would be addressed through the implementation of the regional mitigation strategy.

3.14.5.2 NO ACTION

3.14.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and soil resources would not be directly or indirectly impacted. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to soils similar to those described under the Proposed Action.

3.14.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to soils, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to soils from that development would likely be similar or greater than those described in the Proposed Action section above.

3.15 Hazards and Hazardous Materials

3.15.1 Affected Environment

The project area is currently undeveloped desert with no structures or paved roads surrounded by industrial operations. Nearby industrial operations include three natural-gas energy generating stations and two PV solar facilities. Other facilities near the project area that could contribute to hazardous materials released into the environment include a landfill, limestone mining and processing facility, retail gas station, and a bulk fuel pipeline and pipeline terminal.

The nearest residences are over 12 miles southwest of the project area in the Las Vegas Valley.
The project area is not located in an area that is regularly traveled by the public. As described in the Draft Solar PEIS, the area is not a major recreation destination, although OHV use of roads and trails and some recreational shooting are evident on nearby public lands (BLM and DOE 2010: 11.3-11).

3.15.2 Applicable Laws, Regulations, Plans, and Standards

All site characterization, construction, operation, maintenance, and decommissioning activities would be conducted in compliance with applicable federal, state, and local laws and regulations.

40 CFR Part 117 – Determination of Reportable Quantities for Hazardous Substances, which establishes the quantities of hazardous substances above which the release of these substances must be reported to the federal government.

40 CFR Part 112 – Oil Pollutions Prevention, requires a handler of hazardous waste to obtain a permit from the state or federal government prior to operation if storage thresholds for petroleum are exceeded

and certain other preconditions are met. Conditions of the permit would require the permit holder to limit the potential for accidental release by identifying all wastes generated, limiting the amount of waste that can accumulate at the site where waste is generated, and keeping accurate records of hazardous waste handling.

A Stormwater Pollution Prevention Plan, would ensure erosion and other water quality pollutants associated with construction are controlled through use of standard and Project- specific Best Management Practices (BMPs).

3.15.3 Methodology

The Solar PEIS evaluated effects of solar energy development by describing the hazardous materials and haul routes proposed for use in all anticipated solar technology types and qualitatively described the release risk in the context of relevant regulations. Risks of spills, leaks, or other releases of hazardous materials during construction, operation, maintenance, or transportation of project materials were considered potential impacts in the Solar PEIS. These methods adequately identify all potential impacts associated with exposure to hazardous materials.

3.15.4 Proposed Design Features

All appropriate design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

3.15.5 Environmental Consequences

3.15.5.1 PROPOSED ACTION

3.15.5.1.1 Solar PEIS Summary

This analysis of environmental consequences tiers to Sections 5.20 and 5.21 of the Draft Solar PEIS (BLM and DOE 2010: 5-238, 5-268) and Sections 5.20 and 5.21 of the Final Solar PEIS (BLM and DOE 2012: 5-26). The analysis and other information provided in those documents remains applicable except as detailed below for purposes of this project-specific analysis of potential impacts for the Proposed Action.

3.15.5.1.2 Direct and Indirect Effects

Exposure to hazardous materials directly resulting from the Proposed Action could occur as a result of spills, leaks, or other releases during construction, operation, maintenance, and transport of materials to and from the Project area.

Construction of the Proposed Action could result in increased risks of fires and contamination of environmental media from improper storage and handling of hazardous materials, leading to spills or leaks, and potential contamination of the environment from improper collection, containerization, storage, or disposal during short-term accumulation of wastes onsite. These adverse impacts would be reduced by the implementation of protective measures that fulfill the requirements of the programmatic design features.

During operation and maintenance activities, workers could be exposed to hazardous materials and wastes and environmental contamination resulting from spills or leaks of dielectric fluid in transformers. However, the risk of accidental exposure to transformer fluid would be minimized by the regular monitoring of transformer containment that is proposed as part of the Project.

The types of materials and wastes to be used or generated as a result of the Proposed Action were included in the analysis of the Solar PEIS. In addition, the effects identified above were disclosed in the Draft and Final Solar PEIS. The Proposed Action is consistent with the analysis and findings in the Draft and Final Solar PEIS. All applicable design features and protective measures would be implemented as a part of the Proposed Action and no new significant direct or indirect effects would occur related to hazards and hazardous materials as a result of the Proposed Action.

3.15.5.1.3 Mitigation Measures

Because no new significant impacts related to hazards or hazardous materials would occur as a result of the Proposed Action relative to those considered in the Solar PEIS, no mitigation measures are recommended.

3.15.5.1.4 Cumulative Effects

Impacts caused by the projects in the cumulative scenario, combined with the Proposed Action, would not result in an adverse cumulative hazard or hazardous materials impact even if all of the projects were to be constructed simultaneously in part because all projects would be required to adhere to the robust body of regulations that govern hazardous materials transport, storage, and handling, and worker health and safety. These laws and other requirements have been adopted with cumulative safety considerations in mind and to be sufficiently protective of human health and safety under cumulative conditions. In addition, the Proposed Action, the Dry Lake Solar Energy Center Project, and the Playa Solar Energy Center (each of which is proposed within the Dry Lake SEZ) would comply with the programmatic design features identified in the Solar PEIS ROD.

3.15.5.2 NO ACTION

Under the No Action Alternative, the Project ROW would be denied and there would be no impact from hazardous materials in the area would continue to be subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific materials that may be used are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts from hazardous materials similar to those described under the Proposed Action.

3.15.5.2.1 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to hazardous materials, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts from hazardous materials from that development would likely be similar or greater than those described in the Proposed Action section above.

3.16 Lands/Access

3.16.1 Affected Environment

Information for lands and access presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-5). In addition; land uses throughout the project area consist of

undeveloped land, transmission lines, and a utility corridor. Surrounding land uses include the remainder of the Dry Lake SEZ, the Harry Allen Combined Cycle Generation Station, transmission lines, substations, natural gas pipelines, the Union Pacific Railroad, I-15, U.S. 93, and other smaller paved and dirt roads. Phase II of the project area overlaps with NV Energy grants N-12873, N-82076, and N-74510 (Table 11). NV Energy has been notified of the Proposed Action through adjacent ROW holder letters.

Table 11. Existing ROWs within the Project Area

Case Number	Township/Range	ROW Type	Status
N-12873	T17S, R63E, Section 35 T18S, R63E	Harry Allen Energy Facilities	Authorized
N-82076	T17S, R63E, Section 35	Transmission Line	Pending
N-74510	T17S, R63E, Section 35	Transmission Line	Authorized

The northern portion of the project area partially overlaps with the West Wide Energy Corridor (WWEC). This portion of the WWEC is 3,500 feet wide and was designated for all types of facilities and is available for use; however, there are no active applications with the BLM.

3.16.2 Applicable Laws, Regulations, Plans, and Standards

The BLM manages land use and access according to the BLM Las Vegas RMP (BLM 1998).

3.16.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- Review data in LR2000 and Master Title Plats to identify existing and proposed land uses. Notify adjacent ROW holders of the Proposed Action. Use a GIS overlay comparison of compatible and non-compatible uses to illustrate indicators of what land uses would be most affected by the proposed project.

3.16.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to lands and access were identified in the Final Solar PEIS. The BLM revised the developable area within the SEZ, including the project area, to account for current existing land uses. Because Phase II overlaps with NV Energy grants N-12873, N-82076, and N-74510, build-out of this Phase II area would require coordination with NV Energy to ensure avoidance of their existing facilities, as well as a letter of concurrence from NV Energy.

3.16.5 Environmental Consequences

3.16.5.1 PROPOSED ACTION

3.16.5.1.1 Solar PEIS Summary

The potential impacts to land and access on lands in the Dry Lake SEZ and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.2.2 of the Final Solar PEIS and the impacts from this project would be consistent with

those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to lands and access that are relevant to the Proposed Action is presented below. A summary of the related design features for lands and access that have been fully analyzed in the PEIS is provided in Section 3.16.4 above.
The impacts and design features analyzed and described in the PEIS are incorporated into this document. According to the BLM, "the proposed Dry Lake SEZ still partially overlaps three locally designated corridors" (BLM 2012a:11.3-6). "Solar Development of the SEZ would establish a large industrial area that would exclude many existing and potential uses of the land, perhaps in perpetuity" (BLM 2012a:11.3-6).

3.16.5.1.2 Direct and Indirect Effects

The final project area was identified by the BLM prior to the auction to avoid a majority of existing land uses and ROWs. In addition, as described in the SRMS, "By regulation, any new activity must occur in deference to existing rights. Thus, potential impacts have been avoided" (BLM 2014:49). Invenergy Solar would coordinate with NV Energy prior to any development of Phase II of the Project.

The overlap of the project area with 189.6 acres of the WWEC would result in a narrower width WWEC (approximately 1,800 feet wide) being available for a distance of approximately 4,000 feet. There would be no impact to pending applications within the WWEC.

3.16.5.1.3 Mitigation Measures

No mitigation measures to address impacts to land use and access have been identified. Because there are no mitigation measures, impacts would remain unchanged from the direct/indirect impacts described above.

3.16.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for lands and access is the RMP boundary administered by the BLM Southern Nevada District Office. Section 11.3.22.4.1 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to lands and access. The development of other projects in the Dry Lake SEZ would result in the direct loss of 2,359 acres of public land for other public land uses. The Dry Lake SEZ has been identified specifically for solar energy development, and withdrawn from other uses by the BLM, so the cumulative impacts of all development in the SEZ on land use and access would be negligible.

The development of the remainder of the Dry Lake SEZ, in combination with other reasonably foreseeable future actions in the BLM planning area, would add to the impacts of the Proposed Action and contribute to the cumulative reduction in lands available for other uses, and a cumulative reduction in public access.

3.16.5.2 NO ACTION

3.16.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and land use and access would continue to be managed consistent with the objectives of the BLM Las Vegas RMP. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activities are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action

was not constructed, a different PV project could be constructed and presumably would result in impacts to land use and access similar to those described under the Proposed Action.

3.16.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to land use and access and there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to land use and access from that development would likely be similar or greater than those described in the Proposed Action section above.

3.17 Military and Civilian Aviation

3.17.1 Affected Environment

Information for recreation presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-10). The project area is located approximately 13.5 miles (22 km) northeast of Nellis Air Force Base, and is not located under designated military airspace, or in a Department of Defense consultation area. The project area is located south of and within 5 miles (8 km) of an area identified by Nellis Air Force Base as an emergency military aircraft bailout area.

The project area is located approximately 21 miles (34 km) north of the North Las Vegas Airport and approximately 25 miles (40 km) from McCarran International Airport.

3.17.2 Applicable Laws, Regulations, Plans, and Standards

Not applicable.

3.17.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- Review of analysis in the Final Solar PEIS. BLM conducted SEZ-specific consultation with the Department of Defense.

3.17.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to military and civilian aviation were identified in the Final Solar PEIS. The BLM revised the developable area within the SEZ, including the project area, to include only the southernmost areas of the SEZ which reduced potential impacts on the emergency bailout area.

The military has indicated that structures higher than 50 feet above ground level may present concerns. BLM has provided Nellis Air Force Base with the Project POD to evaluate potential safety hazards. The Proposed Action does not include any structures greater than 50 feet.

3.17.5 Environmental Consequences

3.17.5.1 PROPOSED ACTION

3.17.5.1.1 Solar PEIS Summary

The potential impacts to military and civilian aviation on lands in the Dry Lake SEZ and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.6.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts that are relevant to the Proposed Action is presented below. A summary of the related design features for military and civilian aviation that have been fully analyzed in the PEIS is provided in Section 3.17.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. "Nellis Air Force Base Command has continued to express concerns over potential impacts on the approach and departure of aircraft from the base from solar energy facilities that might be located in the SEZ" (BLM and DOE 2012:11.3-10).

3.17.5.1.2 Direct and Indirect Effects

Impacts from implementation of the Proposed Action to military and civilian aviation operations are not expected. The Proposed Action is not located under military airspace. The area is south of a controlled bailout area, but within a 5-mile (8-km) buffer of that area. The Proposed Action is not expected to create hazards for pilots. The PV panels associated with the Proposed Action would have a maximum ground clearance of approximately 5 feet when flat. They do not create significant glare as PV panels are designed to absorb as much light as possible. The Proposed Action gen-tie line would not be expected to create additional air navigation hazards because there are multiple existing transmission towers in the area.

If pilots eject over the project area, they may suffer potential injuries from colliding with the infrastructure. Potential damage to the solar field may occur depending on the altitude and direction of the aircraft during an emergency ejection.

The North Las Vegas and McCarran Airports are located far enough away from the Proposed Action that there would be no effect to their operations (BLM and DOE 2010).

3.17.5.1.3 Mitigation Measures

No mitigation measures to address impacts to military and civilian aviation have been identified. Because there are no mitigation measures, impacts would remain unchanged from the direct/indirect impacts described above.

3.17.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for military and civilian aviation is defined as the Dry Lake SEZ. Section 11.3.22.4.5 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to military and civilian aviation. The development of other projects in the Dry Lake SEZ would result in the installation of PV panels and associated infrastructure on up to 2,359 acres of public land currently undeveloped and within the 5-mile (8-km) buffer of the emergency bailout zone.

3.17.5.2 NO ACTION

3.17.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and military and civilian aviation operations would continue to be subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other above ground facilties are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to military and civilian aviation operations similar to those described under the Proposed Action.

3.17.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to military and civilian aviation operations, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to air quality from that development would likely be similar or greater than those described in the Proposed Action section above.

3.18 Recreation

3.18.1 Affected Environment

Information for recreation presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-9). The project area offers potential for recreation opportunities. Although there are no developed recreation sites within the project area, roads and trails in the dry lake valley are used for dispersed recreation on a limited basis. The predominant recreation activities would be hunting access to the Arrow Canyon Range and casual OHV use. There is also casual OHV use on the dry lake bed north of the project area. In addition, the dry lake bed is used for model airplane flying, and for target shooting.

3.18.2 Applicable Laws, Regulations, Plans, and Standards

The BLM manages recreation on public lands by identifying SRMAs. SRMAs have a distinct recreation market and corresponding management strategy. BLM-managed public lands not delineated as SRMAs are managed as extensive recreation management areas (ERMAs) and do not require a specific management strategy or activity-level planning. The RMP states under RC-10, "Manage lands not included within Special Recreation Management Areas as the Southern Nevada Extensive Recreation Management Area, emphasizing dispersed and diverse recreation opportunities" (BLM 1998).

3.18.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- Recreation use data are not collected for the dry lake valley area, or for this portion of the Southern Nevada ERMA. The analysis makes use of the best available data, and the professional judgment and field observations of BLM recreation specialists to identify specific recreational

trends and opportunities in the project area and on nearby lands. The analysis also compares the project area boundary with known routes accessing the Arrow Canyon Range and the dry lake bed.

3.18.4 Proposed Design Features

All appropriate and feasible design features outlined in Volume 4, Section 11.3.10.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented. No SEZ-specific design features to address impacts to recreation were identified in the Final Solar PEIS. The BLM revised the developable area within the SEZ, including the project area, to include only the southernmost areas of the SEZ, which reduced potential impacts to recreation opportunities.

3.18.5 Environmental Consequences

3.18.5.1 PROPOSED ACTION

3.18.5.1.1 Solar PEIS Summary

The potential impacts to recreation resources on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.5.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to recreation that are relevant to the Proposed Action is presented below. A summary of the related design features for recreation that have been fully analyzed in the PEIS is provided in Section 3.18.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. The closing of roads/routes could result in adverse impacts to public access in the area; however "the revised area contains the more developed portions of the SEZ, and this area offers very little in the way of recreation opportunities" (BLM 2012a:11.3-9).

3.18.5.1.2 Direct and Indirect Effects

The project area would be fenced with security fencing and would be closed to public access in the long term. This would result in a direct, long-term loss of 715 acres of public land currently available for dispersed recreation activities. Because this area has limited opportunities for dispersed recreation, this would be a negligible impact. The Proposed Action would not result in changes to public access to the Arrow Canyon Range or to the dry lake bed.

3.18.5.1.3 Mitigation Measures

Because there would be negligible impacts to dispersed recreation opportunities, and public access to the Arrow Canyon Range and the dry lake bed would not be impacted, no additional mitigation measures to address recreation impacts have been identified. Because there are no additional mitigation measures, impacts would remain unchanged from the direct/indirect impacts described above.

3.18.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for recreation is defined as public lands that are accessible from I-15 and that are developed recreational sites, routes, SRMAs, or that have dispersed recreation opportunities (to address potential cumulative effects that could result if recreationalists using lands within the study area are displaced to another recreation location along I-15). Section 11.3.22.4.4 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to recreation. The development of other projects in the Dry Lake SEZ would result in the direct loss of 2,359 acres of public land currently available for dispersed recreation activities and would result in route closures and

access restrictions that would impact casual OHV use in the area. The Dry Lake SEZ has limited opportunities for dispersed recreation, and development would not result in the displacement of recreation. The cumulative impacts of all development in the SEZ would remain negligible. Other reasonably foreseeable future actions would have similar impacts, also in areas providing limited opportunities for recreation.

3.18.5.2 NO ACTION

3.18.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and recreation opportunities and access would continue to be managed consistent with the objectives of the Southern Nevada ERMA, the BLM Las Vegas RMP. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and areas to be fenced off from the public are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to recreation similar to those described under the Proposed Action.

3.18.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to recreation, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to recreation from that development would likely be similar or greater than those described in the Proposed Action section above.

3.19 Socio-Economics and Environmental Justice

3.19.1 Affected Environment

Section 11.3.19.1 of the Draft Solar PEIS (BLM and DOE 2010, p. 11.3-297 et seq.) and Section 11.3.19.1 of the Final Solar PEIS (BLM and DOE 2012, p. 11.3-85) describe the social and demographic background and existing conditions in the Region of Influence for the Dry Lake SEZ, which consists of Clark County, Nevada. For purposes of analyzing socioeconomic impacts of the Proposed Action and No Action Alternative, the study area is the same area that was evaluated in the Draft and Final Solar PEIS. This analysis of the Proposed Action and No Action Alternative relies on that discussion and updates it to reflect changes that have occurred since publication of the Final Solar PEIS; namely, that new employment and fiscal data are available that may provide a more accurate reflection of the current socioeconomic conditions in the study area than those relied on in the Draft and Final Solar PEIS, in particular because these new data reflect years during which the U.S. experienced an economic recession, resulting in high unemployment. These data are presented below.

In 2013, employment in Clark County stood at 891,483. Over the period 2004 to 2013, the annual average employment growth rate was 1.3 percent in Clark County, which was higher than the average rate for the State of Nevada (1.0 percent). Employment fell substantially in both geographies between 2008 and 2010, during the recent economic recession, contributing to the low average annual growth. In 2012, the

services sector provided the highest percentage of employment in Clark County at 65.1 percent, followed by wholesale and retail trade at 15.8 percent. Construction provided 4.6 percent of employment.

The Draft Solar PEIS identified a low-income population as one in which the percentage of individuals with incomes below the poverty line exceed 50 percent or is at least 20 percentage points greater than the average for the state as a whole. Overall, between 2008 and 2012, 14.2 percent of Nevada's population had incomes below the poverty line. Therefore, a low- income population would include at least 34.2 percent of individuals with incomes below the poverty line. In 2012, 33 of 487 census tracts in Clark County had a population of 34.2 percent or more with incomes below the poverty line (Bureau of the Census 2013). These were located within or adjacent to the Las Vegas metropolitan area and tended to cluster to the southeast of I-15 in the eastern portion of the Las Vegas area. None were adjacent to the Project site, and only one was within 10 miles of the Project site.

3.19.2 Applicable Laws, Regulations, Plans, and Standards

There are no laws, regulations, plans, or standards that provide thresholds that are relevant to the consideration of the impacts of the Proposed Action and No Action Alternative on socioeconomics and environmental justice

3.19.3 Methodology

Appendix M of the Draft Solar PEIS describes the impact methodology relied upon to analyze the effect of solar development of that program on socioeconomics (Section M.19). No update to Appendix M of the Draft Solar PEIS methodology was needed in the Final Solar PEIS. This analysis of the effects of the Proposed Action and No Action Alternative in this EA relies on the same methodology.

3.19.4 Proposed Design Features

Section 2.2.9, Protective Measures, describes design features, resource surveys, and management plans that are proposed to avoid or reduce potential impacts of the Project. However, none relates specifically to socioeconomic and environmental justice considerations.

3.19.5 Environmental Consequences

3.19.5.1 PROPOSED ACTION

3.19.5.1.1 Solar PEIS Summary

The potential impacts to socio-economics and environmental justice on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.14.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. This analysis of environmental consequences tiers to Sections 11.3.19.2 and 5.18 of the Draft Solar PEIS (BLM and DOE 201011.3-305 et seq.; p. 5-250 et seq.) and Sections 11.3.19.2.4 and 11.3.20.2 of the Final Solar PEIS (BLM and DOE 2012: 11.3-92 et seq.; p. 11.3-94 et seq.). The analysis and other information provided in those documents remains applicable except as detailed below.

3.19.5.1.2 Direct and Indirect Effects

The Project would employ an average of 200 to 400 workers during construction, with a peak not expected to exceed 400 workers at any given time. Based on ratio of direct to indirect labor derived from the input-output model prepared for the Solar PEIS (BLM and DOE 2012: 11.3- 93), it is anticipated that

an average labor force of approximately 200 to 400 workers would produce a total of approximately 400 to 800 jobs including indirect labor.

During operation, the Project would create approximately six direct full-time equivalent jobs, and less than one indirect job.

Because the negligible expected in-migration of workers would not result in a measurable increase in the service population of local government or community services, no new service employment would be required to continue to meet existing levels of service in Clark County. Additionally, because the Project is not expected to result in population growth in Clark County as a whole or in individual communities within Clark County, it is not anticipated that Project construction or operation would cause social change or disruption in these communities

3.19.5.1.3 Mitigation Measures

As described above, it is not anticipated that the Project would result in the need for new or expanded local government or community services; therefore, it is not expected that the Project would need to secure s agreements for local government services as a condition of its Notice to Proceed. Because no new significant impacts have been identified, no additional mitigation is recommended

3.19.5.1.4 Cumulative Effects

This cumulative effects analysis tiers to Sections 11.3.22.4.18 and 11.3.22.4.19 of the Draft Solar PEIS (BLM and DOE 2010: 11.3-359 et seq.) and Section 11.3.22.4 of the Final Solar PEIS (BLM and DOE 2012:11.3-104). Because the Project would not result in impacts that could be experienced disproportionately within the identified minority and low-income areas, it would not contribute to cumulative environmental justice impacts.

As indicated above, it is anticipated that the Project would result in minimal in-migration, and as a result, would not increase the service populations of local government and community services or cause social change or disruption in local communities. During operation, solar projects in the cumulative scenario are expected to create approximately 20 to 50 long-term positions based on their sizes and technologies. No noticeable in-migration is expected to occur as a result of these jobs being created. The potential cumulative impacts of the Proposed Action in combination with other reasonably foreseeable projects are within the range of socioeconomic and environmental justice impacts identified in the Solar PEIS, and no new significant impact would occur.

3.19.5.2 NO ACTION

3.19.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and socio-economics and environmental justice in the area would continue to be subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, employment levels, and other sources of revenue are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to socio-economics and environmental justice populations similar to those described under the Proposed Action.

3.19.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to socio-economics and environmental justice, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to socio-economics and environmental justice from that development would likely be similar or greater than those described in the Proposed Action section above.

3.20 Transportation

3.20.1 Affected Environment

A detailed description of the transportation characteristics serving the Project area can be found in Section 11.3.21 of the Draft Solar PEIS (BLM and DOE 2010:11.3-323 et seq.) and Section 11.3.21 of the Final Solar PEIS (BLM and DOE 2012:11.3-95 et seq.). Those characteristics remain unchanged since publication of the Draft and Final Solar PEIS. I-15, a four-lane divided freeway, passes about 2 miles southeast of the Project, carrying average traffic volumes of about 20,000 to 25,000 vehicles per day in the vicinity of the Project (Nevada Department of Transportation [NDOT] 2013). Based on generalized capacity estimates for rural freeways, the estimated carrying capacity of I-15 is about 60,000 vehicles per day (Florida Department of Transportation [FDOT] 2012). Thus, the current traffic density on this segment of I-15 is no more than 42 percent.

Traveling to the northwest from I-15, U.S. 93, a two- lane undivided highway, borders the southwestern edge of the project area, carrying average traffic volumes of about 2,600 vehicles per day in the vicinity of the Project (NDOT 2013). The estimated carrying capacity of U.S. 93 is about 28,600 vehicles per day (FDOT 2012). Thus, the current traffic density on this segment of U.S. 93 is of no more than 9 percent. The proposed primary access for the Project would be from U.S. 93.

3.20.2 Applicable Laws, Regulations, Plans, and Standards

There are no laws, regulations, plans, or standards that provide thresholds that are relevant to the consideration of the impacts of the Proposed Action and No Action Alternative on transportation systems.

3.20.3 Methodology

The analysis of potential traffic congestion and travel delays on I-15 and U.S. 93 during peak construction used an impact indicator of the change in traffic density by road (i.e., percent of carrying capacity). A comparison of the existing traffic density with expected densities during Project construction and operation was evaluated to determine the effect on local traffic.

3.20.4 Proposed Design Features

Section 2.2.9, Protective Measures, describes design features, resource surveys, and management plans that are proposed to avoid or reduce potential impacts of the Project. Table 4, Dry Lake Programmatic Design Features, describes how the Proposed Action would address programmatic design feature T2-1, which requires Applicants to prepare plans to manage project-related traffic for BLM review and approval.

3.20.5 Environmental Consequences

3.20.5.1 PROPOSED ACTION

3.20.5.1.1 Solar PEIS Summary

This analysis of environmental consequences tiers to Section 11.3.21 of the Draft Solar PEIS (BLM and DOE 2010:11.3-326) and Section 11.3.21 of the Final Solar PEIS (BLM and DOE 2012:11.3-95). The analysis and other information provided in those documents remains applicable except as detailed below for purposes of this project-specific analysis of potential impacts of the Proposed Action.

3.20.5.1.2 Direct and Indirect Effects

The primary transportation impacts from the Proposed Action would result from commuting construction worker traffic on I-15 and U.S. 93. Truck traffic generated by Project construction activities would add to the increased traffic volumes on I-15 and U.S. 93, but to a lesser extent than would the worker traffic. The Project would cause a temporary increase in traffic volumes on I-15 of up to about 10 percent, and up to 15 percent of the traffic level on U.S. 93 north of its junction with I-15. Those levels of increase are consistent with what was analyzed in the Draft and Final Solar PEIS. While percent increase in traffic volumes is a factor to consider when determining impacts, a more relevant measure is changes in traffic density. As described above, the current traffic density on I-15 and U.S. 93 in the Project area is no more than 42 and 9 percent, respectively. The existing-plus-Project traffic densities would be no more than 43 and 10 percent, respectively, remaining within the carrying capacity of the affected roadways. Because spikes in traffic volumes would be experienced during shift changes, traffic on I-15 could experience minor slowdowns during these time periods specifically near Exit 64 (the U.S. 93 and I-15 interchange). However, the anticipated level of traffic during Project construction would not exceed the capacity of I-15. No new significant direct or indirect effects would occur relative to construction-related activities of the Proposed Action.

Operation of the Project would require a workforce of up to six full time-equivalent positions. This workforce would include administrative and management personnel, operators, and security and maintenance personnel. Employees would be based at the onsite O&M building. Operation and maintenance would require the use of vehicles and equipment such as pickup trucks, crane trucks, and forklifts. Because operation and maintenance of the Project would generate substantially less traffic than construction activities, and because the construction phase would not degrade traffic flow conditions on I-15 or U.S. 93 below acceptable levels (as stated above), no adverse impacts are expected to occur due to the traffic generated during the operation and maintenance phase

3.20.5.1.3 Mitigation Measures

No additional or revised mitigation measures are recommend for the Proposed Action as there would be no new transportation impacts relative to the Solar PEIS.

3.20.5.1.4 Cumulative Effects

Traffic generated by existing, ongoing projects is reflected in the existing traffic conditions described in Section 3.20.1 above. Reasonably foreseeable future projects would have the potential to result in cumulative impacts if they are operating or under construction during the Proposed Action's construction-related activities. Future projects that are anticipated to be constructed during the 18-month Project construction period include the Playa Solar Energy Center, Dry Lake Solar Energy Center, Moapa Solar Project, Copper Mountain Solar 2 Project, Moapa Solar Energy Center, Nellis Air Force Base Area II Solar Project, and Clark, Lincoln, and White Pine Counties Groundwater Development Project. Each of

these projects is expected to contribute some traffic to I-15 in southern Nevada. In combination with the Proposed Action, these projects could have a combined average construction workforce of approximately 3,600 personnel, generating about 7,200 one-way trips per day. It is also assumed that each of these projects would have an average daily truck trip generation similar to the Proposed Action (i.e., about 100 truck trips per day), for a combined average of 800 daily truck trips (1,600 one-way truck trips per day). As described above, the current traffic density on I-15 and U.S. 93 in the Project area is no more than 42 and 9 percent, respectively. The cumulative traffic densities, with the assumed concurrent trip generation of about 8,800 one-way trips per day, would be no more than 56 and 40 percent, respectively, remaining within the carrying capacity of the affected roadways. The scope of potential cumulative effects on transportation is within that analyzed in the Final Solar PEIS, and no new or increased significant cumulative effects would occur to transportation as a result of the Proposed Action.

3.20.5.2 NO ACTION

3.20.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and transportation in the area would continue to be subject to existing conditions. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of vehicle traffic are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts transportation similar to those described under the Proposed Action.

3.20.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to transporation, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to transporation from that development would likely be similar or greater than those described in the Proposed Action section above.

3.21 Visual Resources

3.21.1 Affected Environment

Information for visual resources presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-64 – 65). The BLM uses a Visual Resource Management (VRM) system to inventory and manage visual resources on public lands. The primary objective of VRM is to maintain the existing visual quality of BLM-administered public lands and to protect unique and fragile visual resources. The VRM system uses four classes to describe different degrees of modification allowed to the landscape. Visual Resource Inventory classes are visual ratings that describe an area in terms of visual or scenic quality and viewer sensitivity to the landscape (the degree of public concern for an area's scenic quality). Once an area has been assigned a Visual Resource Inventory Class, the management objectives of that class can be used to analyze and determine visual impacts of proposed activities and to gauge the amount of disturbance an area can tolerate before it exceeds the visual management objectives (BLM 1980).

VRM class designations are based on a combination of the area's scenic quality, visual sensitivity, and distance zones and other land use allocations and desired outcomes outlined in the RMP to establish compatibility between VRM class designations and other land use decisions (BLM 1992).

Visual resources (the landscape) consist of landform (topography and soils), vegetation, and human-made structures (roads, buildings, and modifications of the land, vegetation, and water). These elements of the landscape can be described in terms of their form, line, color, and texture. Normally, the more variety of these elements there is in a landscape, the more interesting or scenic the landscape becomes if the elements exist in harmony with each other. The BLM manages landscapes for varying levels of protection and modification, giving consideration to other resource values, land uses, and the scenic quality of the landscape. The analysis area for visual resources includes lands where potential changes to the landscape from the Project may be discerned.

The dominant landscape characteristic within and surrounding the project area is the large, wide, open valley floor with north-south-trending mountain range to the west. Rocky, sloping alluvial fans come down from the mountains into the valley. Vegetation typical of the Mojave Desert environment occurs throughout the project area. Creosote bush and other shrubs and grasses dominate the bajadas and valley floors and contribute to the scenic quality of the area. Naturally exposed black and brown bands of rock within the mountains, and tan to white-colored soils in the valley also add scenic contrasts and scenic quality to the area. The project area is near the Harry Allen power generation facility and several distribution lines interspersed throughout the valley. Both I-15 and U.S. 93 are visibly obvious highways. The existing infrastructure is easily visible to travelers throughout the project area.

Lands in the project area are designated as VRM Class IV (BLM 1998). The VRM Class IV objective "allows activities involving major modification of the landscape's existing character. Authorized actions may create significant landscape alterations and would be obvious to casual viewers" (BLM 1998).

3.21.2 Applicable Laws, Regulations, Plans, and Standards

The BLM manages visual resources within the project area in accordance with VRM classes established in the Las Vegas RMP (BLM 1998: Appendix A, page 3).

3.21.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

A contrast rating was done from critical viewpoints, known as Key Observation Points (KOPs), located along commonly traveled routes, such as highways, access roads, or hiking trails. A KOP can either be a single point of view that an observer/evaluator uses to rate an area or panorama, or a linear view along a roadway, trail, or river corridor. Factors considered in selecting KOPs for the Project were:

- Angle of observation or slope of the Project
- The spatial qualities of the landscape
- Number of potential viewers of the Project
- Length of time that the Project would be in view
- Relative size of the Project
- Light conditions

Four KOPs were selected to determine the potential impacts of the proposed Project on visual resources within the project area (Figure 5). The primary public views of the proposed Project would be from two travel routes (I-15 and U.S. 93), the Loves Travel Center, and the dry lake bed. KOPs were selected to represent effects of the project as seen from public areas that permit a high degree of visibility to the project area. Photographic simulations of the Project were prepared for each KOP and the degree of visual contrasts was rated at each KOP, based on the form, line, color, and texture changes between the existing landscapes and how the landscapes would look after implementation of the proposed project. The contrast ratings, recorded on a BLM Visual Contrast Rating Form (Appendix B), were then used to determine whether or not the level of disturbance associated with the Proposed Action would exceed the VRM objectives for the area (BLM 1986).

3.21.4 Proposed Design Features

Programmatic design features described in Section A.2.2 of Appendix A of the Final Solar PEIS (BLM and DOE 2012) would be implemented to reduce potential visual impacts.

3.21.5 Environmental Consequences

3.21.5.1 PROPOSED ACTION

3.21.5.1.1 Solar PEIS Summary

The potential impacts to visual resources on lands in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV facility are described in Section 11.3.14.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to visual resources that are relevant to the Proposed Action is presented below. A summary of the related design features that have been fully analyzed in the PEIS is provided in Section 3.21.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document.

According to the BLM, "solar development still would involve major modification of the existing character of the landscape; it likely would dominate the views from most locations within the SEZ" (BLM 2012a:11.3-65). However, "with the reduction in size of the SEZ, solar energy development within the SEZ would be expected to create minimal or weak visual contrasts for viewers within many of the surrounding scenic resource areas and other resources listed in Table 11.3.14.2-1. Exceptions include the Desert NWR, the Old Spanish National Historic Trail, Arrow Canyon WA, Muddy Mountains WA, and the Nellis Dunes SRMA. In these areas, moderate or strong visual contrasts still could occur" (BLM 2012a:11.3-70).

3.21.5.1.2 Direct and Indirect Effects

Under the Proposed Action, the solar fields and transmission line would occupy approximately 718 acres. Short-term contrasts with the characteristic landscape of the project area would result from activities associated with construction of the Project. Removal of vegetation and grading (leveling) would result in contrasts to the color and irregular texture and lines of the characteristic landscape over the construction period. In addition, construction equipment, vehicles, supplies, and associated project activities would be clearly visible during construction activities.

Changes to the scenic quality of the Project would result from the introduction of PV panels, new transmission structures, and new building structures. The project area Scenic Quality Rating Unit is an area of low scenic quality due to the lack of topographic features, water bodies, and variety of color.

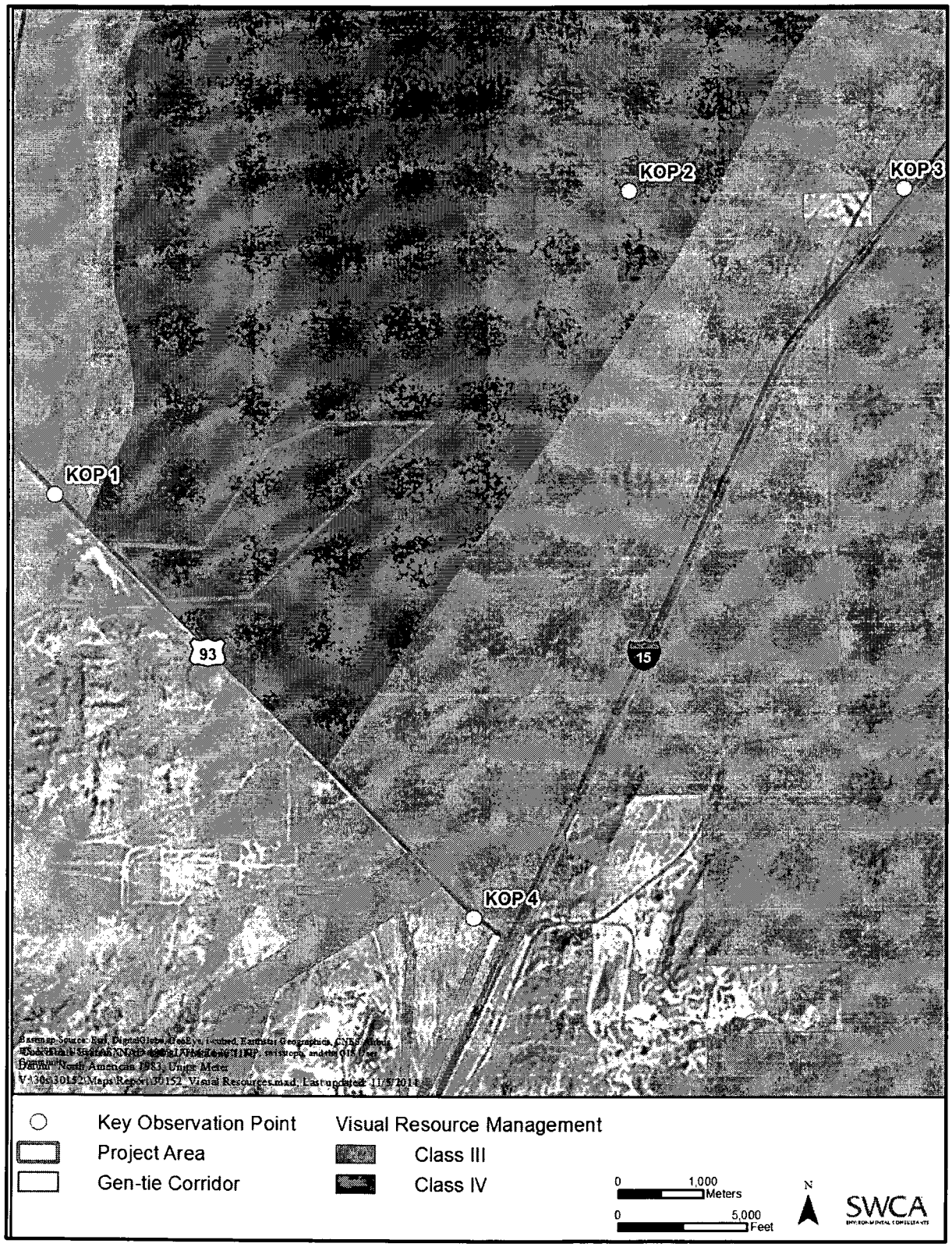

Figure 5. Key Observation Points and VRM Classes.

During the long-term operation of the Project, the regular geometric forms and strong horizontal and vertical lines associated with the solar fields would result in a visual contrast with the forms and colors of the existing landform and vegetation. Although concentrated light would not be directly reflected towards any of the KOPs, the solar panels, when viewed from elevated viewing positions at certain times of the day, would reflect the sky resulting in intermittent bright colors that would sharply contrast with the dull hues of the surrounding tan soils and gray-green vegetation. The proposed transmission line would parallel and repeat the basic visual elements of the many existing transmission lines that are similar in form, line, and color.

Four KOPs were selected to represent critical viewpoints for each of the three sensitive viewer types: travel routes, recreation areas, and public gathering locations (see Figure 5). The selected KOPs also represent different viewing elevations and distance zones relative to the Project. KOPs that are visually screened from the project area by topography and/or vegetation would observe little to no change and are described below. The apparent contrast visible from the KOPs would range from weak/moderate. A visual resource assessment for the Project was completed including visual contrast ratings and photographic visual simulations (see Appendix B). Visual contrast ratings and photographic simulations were completed for each of the four KOPs.

KOP 1, U.S. 93 Eastbound: This KOP is representative of viewers traveling on U.S. 93. Speed limits along this portion of U.S. 93 are 70 miles per hour and as drivers continue east, the Project would be visible for approximately 4 miles (6 km), or 3.4 minutes. Although the solar fields would not be visible from this specific location, the Project would be viewed from farther east along U.S. 93 for a short duration and would be viewed in context with existing modifications, including transmission structures, both U.S. 93 and I-15, and the existing combined-cycle generation station. There would be moderate contrasts to the line, color, and texture of the vegetation; and to the line, color, and texture of structure. Because of the limited viewing time, the movement and speed associated with surrounding traffic, and the existing landscape modifications, it would not demand the attention or dominate the landscape and. The proposed Project would meet VRM Class IV objectives.

KOP 2, Dry Lake Bed: The dry lake bed is a dispersed recreation area popular for target shooting and motorized recreation. The Project would be viewed from this KOP for longer durations, but would not be the primary focus of viewers during motorized recreation activities. This KOP is also at a lower observational angle to the Project which results in the Project components appearing to have less depth than in actuality; however, the Project is located in part on downward-sloping terrain and has greater visibility in places. The Project would be viewed in context with existing modifications, including transmission structures crossing the dry lake bed, transmission structures crossing the project area, the Harry Allen combined-cycle station facilities, and numerous roads and routes. There would be moderate project contrasts that do begin to attract attention and begin to dominate the characteristic landscape. However, because of the types of recreational use, lower observational angle, the brightness of the dry lake bed surface, and existing landscape modifications do not lend the casual user to be attracted to or focus their attention on the proposed Project. The type of casual observer utilizing the lake bed would not find their attention attracted to or focused on the proposed Project. The proposed Project would meet VRM Class IV objectives.

KOP 3, I-15 Southbound: This KOP is representative of viewers traveling on I-15. This KOP is at a superior observational angle to the Project and the maximum area of development associated with the Project would be visible. The Project is located more than 3 miles (4.8 km) from the KOP, but would continue to be intermittently visible as travelers continue south along I-15. Speed limits along this portion of I-15 are 75 miles per hour and the project would be visible for approximately 6 miles (10 km), or 4.8 minutes. The Project would be viewed from this KOP for a short duration and would be viewed in context with existing modifications, including the Interstate, surrounding traffic, transmission structures, the

railroad, and the existing solar and combined-cycle generation stations. There would be no contrast resulting from changes to landform. There would be moderate contrasts to the line and color of the vegetation, and to the line, color, and texture of existing structures. These contrasts would begin to attract attention and begin to dominate the characteristic landscape; however, because of the limited viewing time, the movement and speed associated with surrounding traffic, and the existing landscape modifications, casual viewers would not find their attention attracted to or focused on the proposed Project. The proposed Project would meet VRM Class IV objectives.

KOP 4, Loves Travel Center: This KOP is representative of people leaving the Loves Travel Center. This KOP is at a lower observational angle to the Project which results in the Project components appearing to have less depth than in actuality. The Project would be visible from this KOP in context with existing modifications, including facilities associated with the travel center, numerous transmission structures, substations, and the existing combined cycle generation station. The Project is approximately 3 miles (4.8 km) west and north of the KOP, and views would be partially screened by regular vehicle traffic at the travel center and the numerous transmission structures crossing in multiple directions across the valley. The Project would be viewed from this KOP for a short duration as travelers stop and scan traffic to the west to turn out of the travel center. People at this KOP would be focused on oncoming and surrounding traffic, and the Project would only begin to attract their attention. For people stopped at the travel center itself, either pumping gas, or visiting the store, the associated vehicle traffic and travel center facilities are the features that demand the viewers' attention, and dominate the landscape. There would be moderate Project contrasts to the line and color of vegetation, and to the line, color, and texture of existing structures. These contrasts would begin to attract attention and begin to dominate the characteristic landscape; however, because of the limited viewing time, the existing landscape modifications, and the movement associated with surrounding traffic, casual viewers would not find their attention attracted to or focused on the proposed Project. The proposed Project would meet VRM Class IV objectives.

BLM VRM Conformance: VRM objectives for the project area are Class IV. Under the BLM VRM program, the objective of Class IV is to allow activities involving major modification of the landscape's existing character. Authorized actions may create significant landscape alterations and would be obvious to casual viewers (BLM 1998).

Under the Proposed Action the level of change to the characteristic landscape would range from weak to moderate, based on the visual resource contrast analysis, and would meet BLM VRM Class IV objectives.

3.21.5.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to visual resources, moderate levels of visual contrasts from the Proposed Action would remain in the long term. During development of the Dry Lake SEZ SRMS, cumulative impacts to visual resources were identified as an unavoidable impact which cannot be mitigated on-site. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this Project. The BLM will decide as part of the decision record for this Project if fees will be collected, and if so, the amount of those fees. Off-site mitigation for visual resources may include amending the VRM Classes within the Gold Butte ACEC from VRM Class II to VRM Class I. Off-site mitigation actions funded to offset those impacts may require additional NEPA analysis by the BLM prior to implementation.

3.21.5.1.4 Cumulative Effects

The area of cumulative analysis for visual resources is the viewshed within a 25-mile (40-km) radius of the Dry Lake SEZ. Section 11.3.22.4.13 of the Draft Solar PEIS (BLM and DOE 2010:11.3-356) analyzes the cumulative impacts to visual resources. The development of other projects in the Dry Lake SEZ

would result in the modification of 2,359 acres of undeveloped public land managed as both VRM Class III and Class IV. The Dry Lake SEZ also has a number of existing modifications to the characteristic landscape. The level of change to the characteristic landscape from the cumulative impacts of all development in the SEZ would be moderate. Other reasonably foreseeable future actions would have similar impacts, also in areas with existing modifications.

3.21.5.2 NO ACTION

3.21.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and visual resources in the project area would continue to be influenced by the existing modifications to the landscape, and managed consistent with the objectives of the BLM Las Vegas RMP. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, necessary equipment, and other sources of ground disturbance and visual contrast are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to visual resources similar to those described under the Proposed Action.

3.21.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to visual resources, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to visual resources from that development would likely be similar or greater than those described in the Proposed Action section above.

3.22 Water Resources

3.22.1 Affected Environment

Information for hydrologic conditions presented in the affected environment section of the Final Solar PEIS remains valid (BLM and DOE 2012:11.3-5). The project area is located in the Garnet Valley Area in Hydrographic Basin 216. There are no perennial surface waters located in the project area.

3.22.2 Applicable Laws, Regulations, Plans, and Standards

Water resources within the project area are managed under the authority of the Federal Clean Water Act, as amended (33 USC 1251 et seq.) and Chapter 445A of the NRS.

3.22.3 Methodology

The following methods are used to evaluate impacts from the Proposed Action facility:

- The analysis makes use of the best available data, and the professional judgment and field observations of BLM specialists.
- Review and incorporation by reference of the analysis in Section 11.3.9.2 of the Final Solar PEIS.

3.22.4 Proposed Design Features

All appropriate design features outlined in Volume 4, Section 11.3.11.2.3 and in Section A.2.2 of Appendix A in the PEIS (BLM and DOE 2012) would be implemented.

No SEZ-specific design features to address impacts to hydrologic conditions were identified in the Final Solar PEIS. The BLM revised the developable area within the SEZ, including the project area, to account for current existing land uses.

3.22.5 Environmental Consequences

3.22.5.1 PROPOSED ACTION

3.22.5.1.1 Solar PEIS Summary

The potential impacts to hydrologic conditions in the Dry Lake SEZ, and lands surrounding the Dry Lake SEZ that may result from the construction and operations of a typical solar PV are described in Section 11.3.2.2 of the Final Solar PEIS and the impacts from this project would be consistent with those detailed. Because this EA tiers to the PEIS, a brief summary of those impacts to lands and access that are relevant to the Proposed Action is presented below. A summary of the related design features for water resources that have been fully analyzed in the PEIS is provided in Section 3.22.4 above. The impacts and design features analyzed and described in the PEIS are incorporated into this document. "Disturbance to intermittent/ephemeral stream channels within the Dry Lake SEZ could pose an impact on the critical functions of groundwater recharge, sediment transport, flood conveyance, and ecological habitat in the vicinity of the SEZ. The intermittent/ephemeral stream evaluation suggests that several intermittent/ ephemeral channels within the SEZ have a moderate sensitivity to disturbance. Surface disturbances within the Dry Lake SEZ could also lead to impacts within upstream and downstream reaches of unnamed intermittent/ephemeral streams that flow through the SEZ" (BLM and DOE 2012:11.3-31). The change in boundaries of the Dry Lake SEZ and the designation of non-development areas within the 100-year floodplain have reduced potential impacts surface disturbance on surface water features.

3.22.5.1.2 Direct and Indirect Effects

The Proposed Action has the potential to impact 717 acres in the long term and 8 acres in the short term through ground -disturbing activities. The impacts to hydrologic conditions are consistent with those described in Section 3.22.5.1.1 above. Development of the project area may alter groundwater recharge, ecological habitats, and ephemeral stream channels that can impact flooding and debris flow during storms. Implementation of measures identified in a SWPPP would further reduce impacts to hydrologic conditions.

The Proposed Action does not include a groundwater well, and there would be no impacts to hydrologic conditions from water drawdown associated with the Project.

3.22.5.1.3 Mitigation Measures

Although application of the proposed design features would reduce impacts to hydrologic conditions, disturbance of 717 acres as a result of the Proposed Action would remain in the long term. Impacts from this project warrant off-site mitigation. Mitigation would adhere to the recommendations in the SRMS to offset the unavoidable adverse impacts to hydrology/water resources that would occur in the project area. To compensate for unavoidable impacts, a per-acre fee was recommended for acres disturbed by this project to mitigate for hydrology and water resource impacts. The BLM will decide the amount of those funds as part of the decision record. Off-site mitigation actions funded to offset those impacts may

require additional NEPA analysis by the BLM prior to implementation. The applicant would also prepare a Site Drainage Plan and SWPPP.

3.22.5.1.4 Cumulative Effects

The cumulative impacts area of analysis for water resources is the Dry Lake SEZ and tributaries into the Dry Lake. Section 11.3.22.4.8 of the Draft Solar PEIS (BLM and DOE 2010:11.3-352) analyzes the cumulative impacts to water resources. The Proposed Action would contribute to the cumulative impacts on hydrologic conditions in the basin. The Proposed Action would not contribute to water drawdown in the basin. Cumulative impacts to hydrologic conditions from development in the Dry Lake SEZ would be addressed through the implementation of the regional mitigation strategy.

3.22.5.2 NO ACTION

3.22.5.2.1 Direct and Indirect Effects

Under the No Action Alternative, the Project ROW would be denied and water resources would continue to be impacted by existing uses and trends. Because the project area is located within the Dry Lake SEZ, the land would remain available for future solar energy development and it is possible that some form of solar development could occur in this location if the Proposed Action were not authorized.

Specific locations of activity, water use, necessary equipment, and other sources of ground disturbance are not available, and so it is only possible at this time to provide a general analysis of potential future solar development that could occur in the project area. If the Proposed Action was not constructed, a different PV project could be constructed and presumably would result in impacts to water resources similar to those described under the Proposed Action.

3.22.5.2.2 Cumulative Effects

Because the No Action Alternative would result in no direct or indirect impacts related to water resources, there would be no cumulative impacts associated with the No Action Alternative. If the BLM authorized some form of solar development in this location in the future, the cumulative impacts to water resources from that development would likely be similar or greater than those described in the Proposed Action section above.

4.0 COORDINATION

4.1 Introduction

As described in the Solar PEIS ROD, extensive coordination, consultation, and public involvement specific to solar energy development in SEZs has occurred. The BLM will use this input to inform future development in SEZs. Additional public involvement for projects in SEZs is not required under NEPA. This EA for the development of Parcel One incorporates by reference the coordination, consultation, and public involvement completed for the Solar PEIS. This EA will be released to the public for review and comment.

A summary of the coordination, consultation, and public involvement completed through the Solar PEIS and follow-on work completed specific to the Dry Lake SEZ is provided below.

4.1.1 Solar PEIS

A Notice of Intent to prepare the Solar PEIS was published in the *Federal Register* on May 29, 2008. The Notice of Intent initiated the first scoping period, which lasted from May 29 to July 15, 2008. During that period, the BLM invited the public to provide comments on the scope and objectives of the Solar PEIS, including identification of issues and alternatives that should be considered in the PEIS analyses. Public meetings were held at 11 locations across the six states. A second scoping period was announced through a Notice of Availability of Maps and Additional Public Scoping published in the *Federal Register* on June 30, 2009. During this scoping period, the BLM solicited comments about environmental issues, existing resource data, and industry interest with respect to 24 proposed solar energy study areas (later the terminology was changed to SEZs). It is estimated that approximately 15,900 individuals, organizations, and government agencies provided comments during the first scoping process and approximately 300 entities provided comments during the second scoping process. The results of the first scoping process were documented in a report issued in December 2008 (BLM and DOE 2008). The comments received during the second scoping process are summarized in Chapter 14 of the Draft Solar PEIS.

After publication of the Draft Solar PEIS in December 2010, 14 public meetings were held in the six-state study area between January and March 2011. More than 86,000 comments were received. The public, as well as many cooperating agencies and key stakeholders, offered suggestions on how the BLM could increase the utility of the document, strengthen elements of the proposed Solar Energy Program, and increase certainty regarding solar energy development on BLM-administered lands. These comments were considered in preparation of the Supplement to the Draft Solar PEIS, published in October 2011 (BLM and DOE 2011). The agencies held five public meetings in the study area between November 2011 and January 2012, to present the new information provided in the Supplement. During the public comment period on the Supplement to the Draft Solar PEIS, more than 134,000 comments were received.

In addition to public scoping, the BLM initiated government-to-government consultation with 316 tribes, chapters, and bands with a potential interest in solar energy development on BLM-administered lands in the six-state study area. The BLM also coordinated with appropriate agencies in accordance with the requirements of Section 106 of the NHPA and Section 7 of the Endangered Species Act.

Nineteen federal, state, and local government agencies worked with the BLM as cooperating agencies on the Solar PEIS. As cooperators, these agencies were involved in the development of the Draft Solar PEIS, the Supplement to the Draft Solar PEIS, and the Final Solar PEIS.

4.1.2 Dry Lake SEZ

Comments were received during the Solar PEIS process specific to the Dry Lake SEZ. Many of the comments received on the Dry Lake SEZ were in favor of identifying the area as an SEZ with proper siting and design (The Wilderness Society et al.; The Nature Conservancy). For example, The Wilderness Society et al. and the Nevada Wilderness Project recommended excluding the dry lake, playa, and washes to avoid impacts on wildlife and special-status species habitat, and removing the portion of the SEZ that is southeast of I-15 to avoid impacts on the Old Spanish National Historic Trail. The Cultural Resources Preservation Coalition and Partnership for the National Trails System also recommended adjusting the SEZ boundary to reduce impacts on the National Historic Trail. The U.S. Department of Defense expressed concerns regarding impacts on use of the area for emergency aircraft bailout purposes. The USFWS identified the entire SEZ as an area of concern for desert tortoise recovery. Western Watersheds Project recommended that the Dry Lake SEZ be eliminated to avoid impacts on desert tortoise habitat.

Based on the comments received, the Dry Lake SEZ was reconfigured to include only the southernmost area northwest of I-15, excluding the northern portion of the SEZ. This reconfiguration was intended to mitigate some potential impacts, including impacts on desert tortoise and other wildlife and potential impacts on military operations. The remaining SEZ area is 6,186 acres. In addition, 469 acres of floodplain and wetland were identified as non-development areas within the remaining SEZ boundaries, resulting in a developable area of 5,717 acres.

The SRMS for the Dry Lake SEZ, released on March 17, 2014, was prepared to meet a commitment from the ROD for the Solar PEIS to develop regional mitigation strategies for each of the SEZs (BLM 2014b). Preparation of the SRMS involved a significant amount of public involvement, including four public workshops, three web-based meetings, and several public comment opportunities. Representatives from federal, state, and local government agencies; nongovernmental organizations concerned with issues such as environmental or recreational impacts; representatives from the solar development industry, mining industry, and utilities; tribal representatives; and individual members of the public who had been involved in the Solar PEIS process were invited to attend these activities. The SRMS describes unavoidable adverse impacts and makes recommendations for off-site mitigation actions and costs that the BLM will consider when processing ROW applications in the SEZ. The SRMS is incorporated by reference into this EA.

4.2 Persons, Groups, and Agencies Consulted

Table 12. List of All Persons, Agencies, and Organizations Consulted for Purposes of this EA

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
Tribes and Native American Interests		
State Historic Preservation Office (SHPO)	Consultation for undertakings, as required by the National Historic Preservation Act (NHPA) (16 USC 470)	SHPO has concurred, by letter dated October 23, 2014, with the BLM's determinations of the direct and indirect Areas of Potential Effects, the adequacy of the identification efforts outline for the proposed undertaking, and the eligibility of specified cultural resources for inclusion on the NRHP (Appendix C).

Table 12. List of All Persons, Agencies, and Organizations Consulted for Purposes of this EA (Continued)

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
Chemehuevi Indian Tribe Colorado River Indian Tribe Fort Mojave Indian Tribe Kaibab Band of Paiutes Las Vegas Paiute Tribe Moapa Band of Paiutes Pahrump Paiute Tribe (non-federally recognized) Paiute Indian Tribe of Utah San Juan Southern Paiute Tribe The Hopi Tribe Timbisha Shoshone	Consultation as required by the American Indian Religious Freedom Act of 1978 (42 USC 1531) and NHPA Section 106 (16 USC 1531)	A letter was sent on October 16, 2014. The Hopi Tribe has responded by letter dated November 3, 2014, that the Dry Lake SEZ projects are unlikely to affect cultural resources significant to them.
Federal Agencies		
U.S. Fish and Wildlife Service	Consultation for undertakings, as required by Section 7 of the ESA (16 USC Section 1531)	The BLM and USFWS are currently proceeding with Section 7 consultation under the ESA. At this time, the BO has not been developed. The BO will include information such as the translocation location(s) and stipulations associated with that activity.
U.S. Environmental Protection Agency Region IX	Notification as required by Master Memorandum of Understanding between the DOI-BLM AZ, CA, NV, and the U.S. Environmental Protection Agency	BLM notified the Environmental Protection Agency Region 9 on September 12, 2014 of the Proposed Action (personal communication, Nancy Christ, BLM Las Vegas, EPA Region 9, September 12, 2014).
National Park Service – Lake Mead National Recreation Area		BLM coordinated informally with the National Park Service (NPS) Renewable Energy Specialist on September 11 and November 5, 2014, who indicated that Lake Mead National Recreation Area had no concerns relative to the Proposed Action. BLM also consulted with NPS National Historic Trails staff September 12–October 28, 2014, on any potential adverse effect to the Old Spanish National Historic Trail. Viewshed analysis by both NPS and BLM concluded that there was no adverse effect to the congressionally designated National Historic Trail (email communication from Michael Romero Taylor, Cultural Resources Specialist, National Trails Intermountain Region, NPS, dated November 5, 2014).
State Agencies		
Nevada Department of Wildlife		
Local Agencies		
Clark County Clark County Health Department	Notification as required by 43 CFR 2807.14	BLM notified Clark County on September 16, 2014 of the Proposed Action. The letter indicated that if no response was received, BLM would assume Clark County had no problems or issues with BLM granting the ROW. No Response was received.

Table 12. List of All Persons, Agencies, and Organizations Consulted for Purposes of this EA (Continued)

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
Chemical Lime Co. Central Telephone dba Century Link FTV Comm c/o Level 3 Genscape Inc. Great Basin Transmission, LLC Holly Energy Partners Kern River Gas Transmission Co. LA & SL RR Co. Level 3 Lhoist North America MCI Worldcom Network Svc Inc. NV Power Co. dba NV Energy Sierra Pacific Power Co. Southwest Gas Corporation	Notification as required by 43 CFR 2807.14	BLM notified adjacent right-of-way holders on September 16, 2014 and/or September 17, 2014 notifying them of the Proposed Action. The letter indicated that if no response was received, BLM would assume the adjacent ROW holder had no problems or issues with BLM granting the ROW. A response from NV Energy was received on October 28, 2014, indicating any development within the Southern Nevada Intertie Project Corridor Parcel One will require review of the applicant's engineering plans before NV Energy concurrence can be given. A response from Great Basin Transmission, LLC was received on October 7, 2014, requesting any development of solar facilities in Parcel One avoid overlap with the Southern Nevada Intertie Project requested ROW and On Line's approved ROW, which both cross the northeastern portion of the parcel. A response was also received from Southwest Gas Corporation on October 9, 2014, indicating no objection to the Proposed Action.

4.3 Summary of Public Participation

The process used to involve the public included the direct mail of letters to Tribes; federal, state, and local agencies; private landowners, and other interested parties as documented in the table above to solicit their comments and concerns about the Proposed Action. A public comment period was offered between December 9, 2014, and January 7, 2015, to keep the public informed of actions occurring following the Dry Lake SEZ auction.

4.4 List of Preparers/Reviewers

The BLM staff and environmental resource specialists of the BLM's consultant (SWCA) who participated in the development of this EA are identified below in Table 13 below.

Table 13. List of Preparers/Reviewers

Name	Title	Affiliation	Responsibility
Nancy Christ	Planning and Environmental Coordinator	BLM	All sections
Lisa Christianson	Environmental Protection Specialist	BLM	Air Resources Climate Hazards and Hazardous Materials
Melanie Cota	Wildlife Biologist	BLM	Biological Resources – Wildlife and Aquatic Biota Specially Designated Areas
Stan Plum	Archaeologist	BLM	Cultural Resources and Native American Concerns Paleontological Resources

Table 13. List of Preparers/Reviewers (Continued)

Name	Title	Affiliation	Responsibility
Greg Helseth	Project Manager	BLM	Acoustic Environment, Military and Civilian Aviation, and Transportation
Sean McEldery	Fire Management Specialist	BLM	Biological Resources – Vegetation and Wildland Fire Ecology
Evan Allen	Geologist	BLM	Minerals
Boris Poff	Hydrologist	BLM	Soil Resources Water Resources
Ben Klink	Range Specialist	BLM	Biological Resources - Vegetation and Wildland Fire Ecology
Kathryn Foster	Realty Specialist	BLM	Lands/Access
Chris Linehan	Recreation Planner	BLM	Recreation
Fred Edwards	Botanist	BLM	Biological Resources - Vegetation and Wildland Fire Ecology
John Schumacher	Natural Resource Specialist	BLM	Visual Resources
Randy Kyes	Wilderness Planner	BLM	Specially Designated Areas and Lands with Wilderness Characteristics
Steve Leslie	Project Manager	SWCA	All sections
Eric Koster	Project Director	SWCA	All sections
Adrian Hogel	Environmental Specialist	SWCA	Biological Resources
Blake Fox	Environmental Specialist	SWCA	Soil Resources, Biological Resources
Victor Villagran	Archaeologist	SWCA	Cultural Resources and Native American Concerns

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APPENDIX A

Legal Descriptions

SURVEYOR'S CERTIFICATE

I, JASON PAUL HIGGINS, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, CERTIFY THAT:

1. THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY SUPERVISION AT THE INSTANCE OF INVENERGY SOLAR DEVELOPMENT LLC, A DELAWARE LIMITED LIABILITY COMPANY.
2. THE LANDS SURVEYED LIE WITHIN SECTIONS 33, 34, 35 AND 36, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN AND WITHIN SECTIONS 2, 3 AND 4, TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA. THE SURVEY WAS COMPLETED ON AUGUST 12, 2014.
3. THIS PLAT COMPLIES WITH THE APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE SURVEY WAS COMPLETED, AND THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH CHAPTER 625 OF THE NEVADA ADMINISTRATIVE CODE.
4. THE MONUMENTS DEPICTED ON THIS SURVEY ARE OF THE CHARACTER SHOWN AND OCCUPY THE POSITIONS INDICATED, AND ARE OF SUFFICIENT DURABILITY.

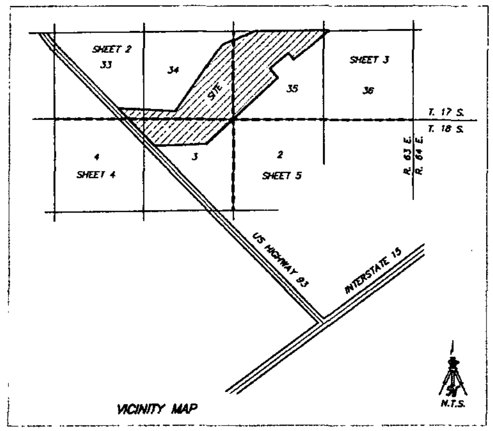
JASON PAUL HIGGINS
PROFESSIONAL LAND SURVEYOR
NEVADA LICENSE NO. 13501

PROFESSIONAL LAND SURVEYOR STATE OF NEVADA JASON PAUL HIGGINS Exp: 06/30/15 No. 13501

13 AUGUST 2014

MAP REFERENCES

1) GENERAL LAND OFFICE PLAT FOR TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, APPROVED APRIL 28, 1882
2) GENERAL LAND OFFICE PLAT FOR TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, APPROVED JULY 12, 1935
3) BUREAU OF LAND MANAGEMENT INDEPENDENT RESURVEY PLAT FOR TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, APPROVED NOVEMBER 2, 1960
4) BUREAU OF LAND MANAGEMENT DEPENDENT RESURVEY PLAT FOR A PORTION OF SECTIONS 32 AND 33, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, APPROVED AUGUST 12, 1997
5) BUREAU OF LAND MANAGEMENT DEPENDENT RESURVEY PLAT FOR A PORTION OF SECTIONS 3, 10 AND 11 (SHEET 2 OF 11) AND A PORTION OF SECTIONS 4, 5 AND 8 (SHEET 3 OF 11), TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, APPROVED AUGUST 12, 1997
6) RECORD OF SURVEY, FILE 60, PAGE 89 OF SURVEYS, RECORDED ON SEPTEMBER 19, 1991
7) RECORD OF SURVEY, FILE 89, PAGE 56 OF SURVEYS, RECORDED ON JUNE 10, 1997
8) PARCEL MAP, FILE 97, PAGE 20 OF PARCEL MAPS, RECORDED ON FEBRUARY 1, 2000
9) PLAT, BOOK 95, PAGE 38 OF PLATS, RECORDED ON JUNE 23, 2000
10) RECORD OF SURVEY, FILE 109, PAGE 92 OF SURVEYS, RECORDED ON JUNE 26, 2000
11) RECORD OF SURVEY, FILE 129, PAGE 52 OF SURVEYS, RECORDED ON MARCH 27, 2003
12) RECORD OF SURVEY, FILE 129, PAGE 89 OF SURVEYS, RECORDED ON APRIL 17, 2003
13) RECORD OF SURVEY, FILE 129, PAGE 90 OF SURVEYS, RECORDED ON APRIL 17, 2003
14) RECORD OF SURVEY, FILE 147, PAGE 16 OF SURVEYS, RECORDED ON MARCH 22, 2005
15) DESCRIPTION FOR "DRY LAKE SEZ", AS PUBLISHED IN THE FEDERAL REGISTER ON MAY 30, 2014 AND SHOWN ON THE NATIONAL RENEWABLE ENERGY LABORATORY (NREL) GIS MAP TITLED "DRY LAKE SEZ", DATED APRIL 2014
16) SHEET 1 OF 6, NEVADA POWER "500 KV HARRY ALLEN TO CRYSTAL TRANSMISSION LINE" DRAWING, UNDATED, FROM BUREAU OF LAND MANAGEMENT CASE FILE N-74510
17) SHEETS 1 THROUGH 6, RIGHT-OF-WAY DRAWINGS FOR U.S. HIGHWAY 93, DATED JUNE 6, 1963, FROM BUREAU OF LAND MANAGEMENT CASE FILE NEV-060522
18) SHEET 5 OF 5, NEVADA POWER "HARRY ALLEN / CRYSTAL 500 KV LINE" DRAWING, DATED DECEMBER 12, 2002, PROJECT ID: 1001374, FROM BUREAU OF LAND MANAGEMENT CASE FILE N-74510
19) SHEET 17 OF 17, NEVADA POWER "HARRY ALLEN / NORTHWEST 500 KV TRANSMISSION LINE" DRAWING, DATED SEPTEMBER 30, 2003, PROJECT ID: 1001991, FROM BUREAU OF LAND MANAGEMENT CASE FILE N-75025
20) SHEET 2 AND 3 OF 3, NEVADA POWER "HARRY ALLEN / SILVERHAWK 500 KV LINE" DRAWINGS, DATED MAY 9, 2006, PROJECT ID: 10000295, FROM BUREAU OF LAND MANAGEMENT CASE FILE N-75607



VICINITY MAP

BASIS OF BEARINGS

SOUTH 89°46'44" EAST, BEING THE BEARING OF THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE1/4) OF SECTION 33, TOWNSHIP 17 SOUTH, RANGE 63 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN FILE 109, PAGE 92 OF SURVEYS IN THE CLARK COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

COUNTY RECORDER'S NOTE

ANY SUBSEQUENT CHANGES TO THIS MAP SHOULD BE EXAMINED AND MAY BE DETERMINED BY REFERENCE TO THE COUNTY RECORDER'S CUMULATIVE MAP INDEX. N.R.S. 278.5695

LEGAL DESCRIPTION

THIS DESCRIPTION REPRESENTS DRY LAKE SOLAR ENERGY ZONE, AREA ONE, LYING WITHIN SECTIONS 33, 34, 35 AND 36, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN AND WITHIN SECTIONS 3 AND 4, TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA.

ALIQUOT DESCRIPTION

TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN:

SECTION 33: GOVERNMENT LOT 13 AND 14
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING WITHIN LAND UTILIZED AS TORTOISE HABITAT CONNECTIVITY AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR" MAP DATED FEBRUARY 11, 2014;

SECTION 34: GOVERNMENT LOTS 1, 2, 3 AND 4, NE 1/4, N1/2 S1/2
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING WITHIN LAND UTILIZED AS TORTOISE HABITAT CONNECTIVITY AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR" MAP DATED FEBRUARY 11, 2014 AND FURTHER EXCEPTING THAT PORTION OF LAND LYING SOUTHEASTERLY OF THE NORTHWESTERLY RIGHT-OF-WAY FOR TRANSMISSION LINE, BLM NEVADA CASE FILE N 75607;

SECTION 35: GOVERNMENT LOT 1, NE 1/4, N 1/2 SW 1/4, NW 1/4
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING WITHIN LAND UTILIZED AS TORTOISE HABITAT CONNECTIVITY AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR" MAP DATED FEBRUARY 11, 2014 AND FURTHER EXCEPTING THOSE PORTIONS OF LAND LYING SOUTHEASTERLY OF THE NORTHWESTERLY RIGHT-OF-WAY LINES OF BLM NEVADA CASE FILES N 74510, N 75025 AND N 75607;

SECTION 36: NW 1/4 NW 1/4
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING SOUTHEASTERLY OF THE NORTHWESTERLY RIGHT-OF-WAY LINE OF BLM NEVADA CASE FILE N 74510;

TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN:

SECTION 3: GOVERNMENT LOTS 1, 2, 3, 5, 7 AND 8, S1/2 NE1/4
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING SOUTHEASTERLY AND SOUTHERLY OF THE NORTHWESTERLY AND NORTHERLY RIGHT-OF-WAY LINES OF BLM NEVADA CASE FILES N 75607 AND FURTHER EXCEPTING THOSE PORTIONS OF LAND LYING SOUTHWESTERLY OF THE NORTHEASTERLY RIGHT-OF-WAY LINE OF BLM NEVADA CASE NEV 60522;

SECTION 4: GOVERNMENT LOT 5
EXCEPTING THEREFROM THOSE PORTIONS OF LAND LYING SOUTHWESTERLY OF THE NORTHEASTERLY RIGHT-OF-WAY LINE OF BLM NEVADA CASE NEV 60522.

METES AND BOUNDS DESCRIPTION

BEGINNING AT THE SECTION CORNER, COMMON TO SECTIONS 25, 26, 35 AND 36, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA THENCE WITH THE NORTH LINE OF SECTION 36 NORTH 89°33'53" EAST, 326.18 FEET TO THE NORTHWESTERLY RIGHT-OF-WAY LINE OF A 200 FOOT WIDE RIGHT-OF-WAY, GRANTED TO NEVADA POWER COMPANY, SERIAL NUMBER N 74510, THENCE WITH SAID NORTHWESTERLY LINE SOUTH 49°58'23" WEST, 2669.51 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF A RIGHT-OF-WAY GRANTED TO NEVADA POWER COMPANY, COMMONLY KNOWN AS THE HARRY ALLEN SWITCHYARD, SERIAL NUMBER N 75025, THENCE WITH SAID RIGHT-OF WAY, THE FOLLOWING THREE (3) COURSES, 1) NORTH 39°47'58" WEST, 485.51 FEET, 2) THENCE SOUTH 50°02'20" WEST, 1400.31 FEET, 3) THENCE SOUTH 39°47'06" EAST, 711.48 FEET TO THE NORTHWESTERLY RIGHT-OF-WAY LINE OF A 150 FOOT WIDE RIGHT-OF-WAY, GRANTED TO NEVADA POWER COMPANY, SERIAL NUMBER N 75607, THENCE WITH SAID RIGHT-OF WAY, THE FOLLOWING FOUR (4) COURSES, 1) SOUTH 47°45'01" WEST, 3524.38 FEET, 2) SOUTH 46°33'08" WEST, 2198.07 FEET, 3) THENCE SOUTH 88°11'07" WEST, 2838.81 FEET, 4) THENCE SOUTH 89°54'08" WEST, 189.85 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF A 400 FOOT WIDE RIGHT-OF-WAY, GRANTED TO NDOT, SERIAL NUMBER NEV 60522, THENCE WITH SAID RIGHT-OF-WAY LINE, NORTH 44°31'07" WEST, 3070.45 FEET, THENCE DEPARTING SAID RIGHT-OF-WAY LINE AND WITH THE BORDER OF THE TORTOISE HABITAT CONNECTIVITY AREA, AS SHOWN ON THE "DRY LAKE SEZ NON-DEVELOPMENT ACRES TORTOISE CORRIDOR", MAP DATED FEBRUARY 11, 2014 THE FOLLOWING FOURTEEN (14) COURSES, 1) SOUTH 87°07'03" EAST, 3390.40 FEET, 2) THENCE NORTH 34°45'56" EAST, 4762.42 FEET, 3) THENCE NORTH 63°50'02" EAST, 211.00 FEET, 4) THENCE NORTH 69°03'18" EAST, 205.98 FEET, 5) THENCE NORTH 72°31'02" EAST, 373.00 FEET, 6) THENCE NORTH 66°40'02" EAST, 94.00 FEET, 7) THENCE NORTH 63°50'02" EAST, 77.00 FEET, 8) THENCE NORTH 61°30'02" EAST, 170.00 FEET, 9) THENCE NORTH 64°20'02" EAST, 53.00 FEET, 10) THENCE NORTH 68°45'02" EAST, 143.00 FEET, 11) THENCE NORTH 68°50'02" EAST, 312.00 FEET, 12) THENCE NORTH 63°50'02" EAST, 117.00 FEET, 13) THENCE NORTH 67°40'02" EAST, 261.00 FEET, 14) THENCE NORTH 65°40'02" EAST, 38.82 FEET TO THE NORTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF SECTION 35, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA, THENCE WITH SAID NORTH LINE NORTH 89°35'22" EAST, 1399.76 FEET THE NORTH QUARTER CORNER OF SAID SECTION 35, THENCE WITH THE NORTH LINE OF THE NORTHEAST QUARTER (NE1/4) OF SAID SECTION 35 NORTH 89°35'53" EAST, 2640.70 FEET TO THE POINT OF BEGINNING.

CONTAINING 714.99 ACRES, MORE OR LESS.

RECORD OF SURVEY
DRY LAKE – SOLAR ENERGY ZONE AREA ONE
INVENERGY SOLAR DEVELOPMENT LLC
LYING WITHIN SECTIONS 33, 34, 35 AND 36, TOWNSHIP 17 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN AND WITHIN SECTIONS 3 AND 4, TOWNSHIP 18 SOUTH, RANGE 63 EAST, MOUNT DIABLO MERIDIAN, CLARK COUNTY, NEVADA

WALLACE · MORRIS
SURVEYING, INC.
LAND SURVEY CONSULTING
5740 SOUTH ARVILLE STREET, #206
LAS VEGAS, NEVADA 89118
PH:702.212.3967 FX:702.212.3963

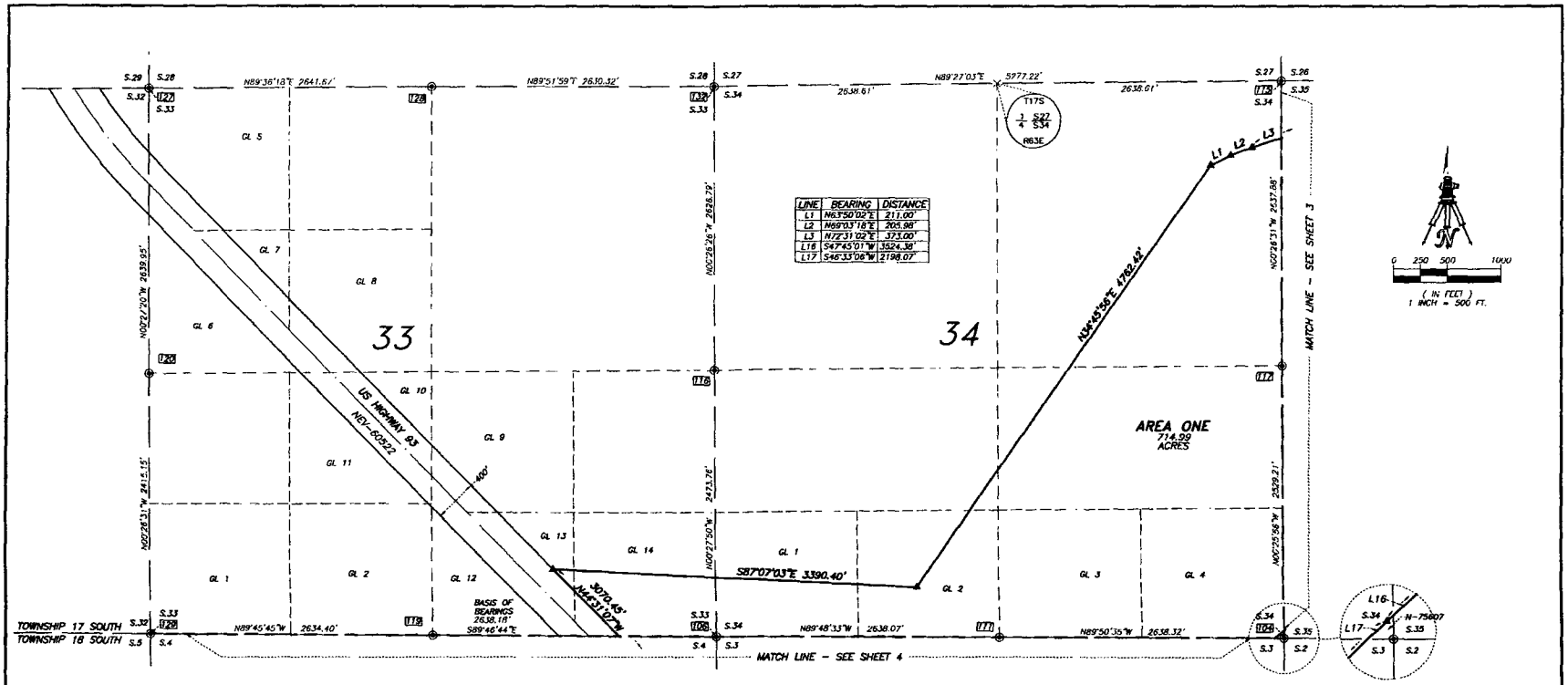
INSTRUMENT NO. 1109
OFFICIAL RECORDS
BOOK NO. 20140815
FILED AT THE REQUEST OF
WALLACE-MORRIS SURVEYING, INC.
DATE 8/15/14 AT 10:10 AM
FILE 192 PAGE 80
OF SURVEYS
CLARK COUNTY, NEVADA RECORDS
DEBBIE CONWAY, RECORDER
FEE $ 64.00 DEPUTY MSH

SHEET 1 OF 5

FILE 192 . PAGE 80

WV-14150

A-1



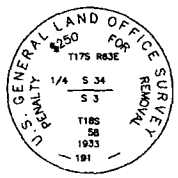
LINE	BEARING	DISTANCE
L1	N63°50'02"E	211.00'
L2	N69°03'18"E	205.98'
L3	N72°31'02"E	373.00'
L16	S47°45'01"W	3524.39'
L17	S46°33'08"W	2198.07'

POINT NO. 104

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

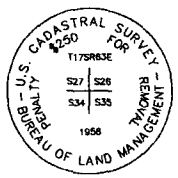
POINT NO. 106

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.2' ABOVE NATURAL GROUND



POINT NO. 111

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND



POINT NO. 115

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.5' ABOVE NATURAL GROUND

POINT NO. 116

FOUND 3 1/4" BRASS CAP ON 2" STEEL PIPE, 2.0' ABOVE NATURAL GROUND WITH ALUMINUM WASHER, WIRE TIED TO PIPE, STAMPED "N.D.O.T. PIT CORNER BOUNDARY"

POINT NO. 117

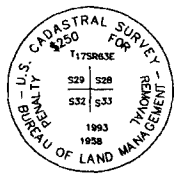
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.6' ABOVE NATURAL GROUND

POINT NO. 119

FOUND 3 1/2" BRASS CAP ON 1" STEEL PIPE, PIPE IS BENT, LEANING 0.4' EAST

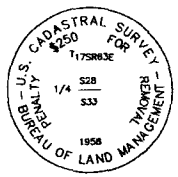
POINT NO. 120

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.8' ABOVE NATURAL GROUND



POINT NO. 127

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.6' ABOVE NATURAL GROUND

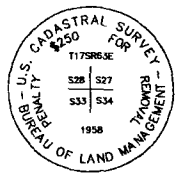


POINT NO. 128

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 129

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.8' ABOVE NATURAL GROUND



POINT NO. 132

FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.5' ABOVE NATURAL GROUND

LEGEND

	AREA ONE BOUNDARY LINE
	HIGHWAY CENTERLINE
	SECTION LINE
	QUARTER SECTION LINE
	GOVERNMENT LOT LINE
	HIGHWAY RIGHT-OF-WAY LINE
NEV-60522	BLM CASE FILE NUMBER
104	MONUMENT IDENTIFICATION NUMBER
S.35	SECTION NUMBER
GL 1	GOVERNMENT LOT NUMBER
L1	LINE SEGMENT
×	CALCULATED POINT
◉	FOUND MONUMENTATION AS SHOWN AND DESCRIBED
▲	SET 5/8" REBAR AND 2" ALUMINUM CAP STAMPED "J P HIGGINS, PLS 13601"

PROFESSIONAL LAND SURVEYOR
JASON PAUL HIGGINS
Exp. 06/30/15
No. 13601
STATE OF NEVADA

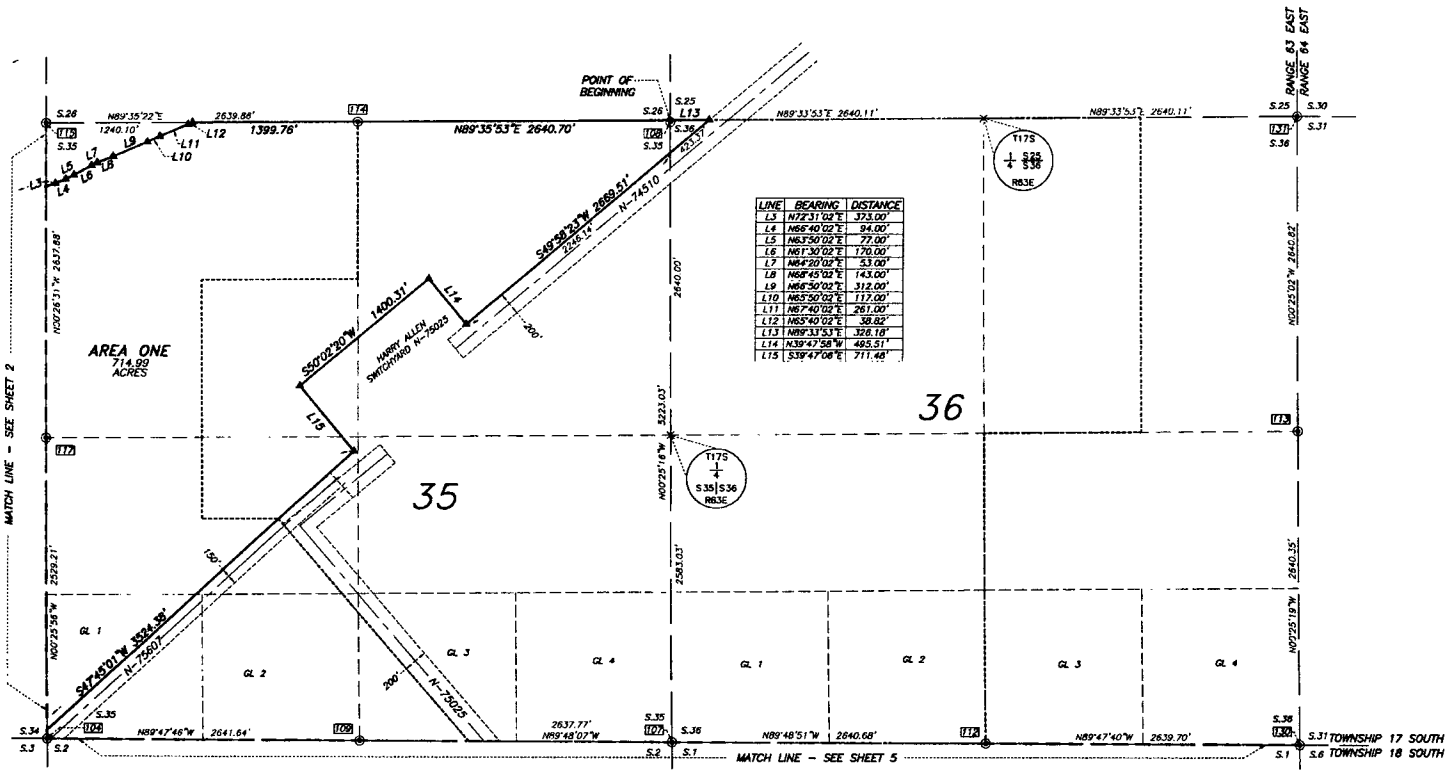
13 AUGUST 2014

SHEET 2 OF 5

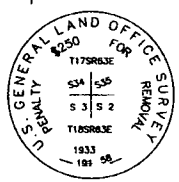
INV-14150

BOOK 192 , PAGE 80

A3

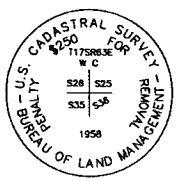


LINE	BEARING	DISTANCE
L3	N72°31'02"E	373.00'
L4	N66°40'02"E	94.00'
L5	N63°50'02"E	77.00'
L6	N61°30'02"E	170.00'
L7	N64°20'02"E	53.00'
L8	N68°45'02"E	143.00'
L9	N66°50'02"E	312.00'
L10	N65°50'02"E	117.00'
L11	N67°40'02"E	261.00'
L12	N65°40'02"E	38.82'
L13	N89°33'53"E	328.18'
L14	N39°47'58"W	495.51'
L15	S39°47'08"E	711.48'



POINT NO. 104
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 107
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.5' ABOVE NATURAL GROUND

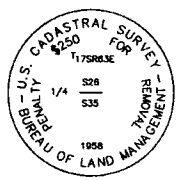


POINT NO. 108
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.0' ABOVE NATURAL GROUND, 13.2' SOUTH, ON THE SECTION LINE

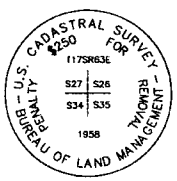
POINT NO. 109
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 112
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.8' ABOVE NATURAL GROUND

POINT NO. 113
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.6' ABOVE NATURAL GROUND



POINT NO. 114
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.2' ABOVE NATURAL GROUND



POINT NO. 115
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.5' ABOVE NATURAL GROUND

POINT NO. 117
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.6' ABOVE NATURAL GROUND

POINT NO. 130
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.2' ABOVE NATURAL GROUND

POINT NO 131
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.6' ABOVE NATURAL GROUND

LEGEND

	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTER LINE
	AREA ONE BOUNDARY LINE
	SECTION LINE
	QUARTER SECTION LINE
	GOVERNMENT LOT LINE
	RIGHT-OF-WAY GRANT N-12873 LINE
N-75025	BLM CASE FILE NUMBER
104	MONUMENT IDENTIFICATION NUMBER
S.35	SECTION NUMBER
GL 1	GOVERNMENT LOT NUMBER
L1	LINE SEGMENT
×	CALCULATED POINT
◉	FOUND MONUMENTATION AS SHOWN AND DESCRIBED
▲	SET 5/8" REBAR AND 2" ALUMINUM CAP STAMPED "J P HIGGINS, PLS 13801"

PROFESSIONAL LAND SURVEYOR
JASON PAUL HIGGINS
Exp. 06/30/15
No. 13801
STATE OF NEVADA

13 AUGUST 2014

SHEET 3 OF 5

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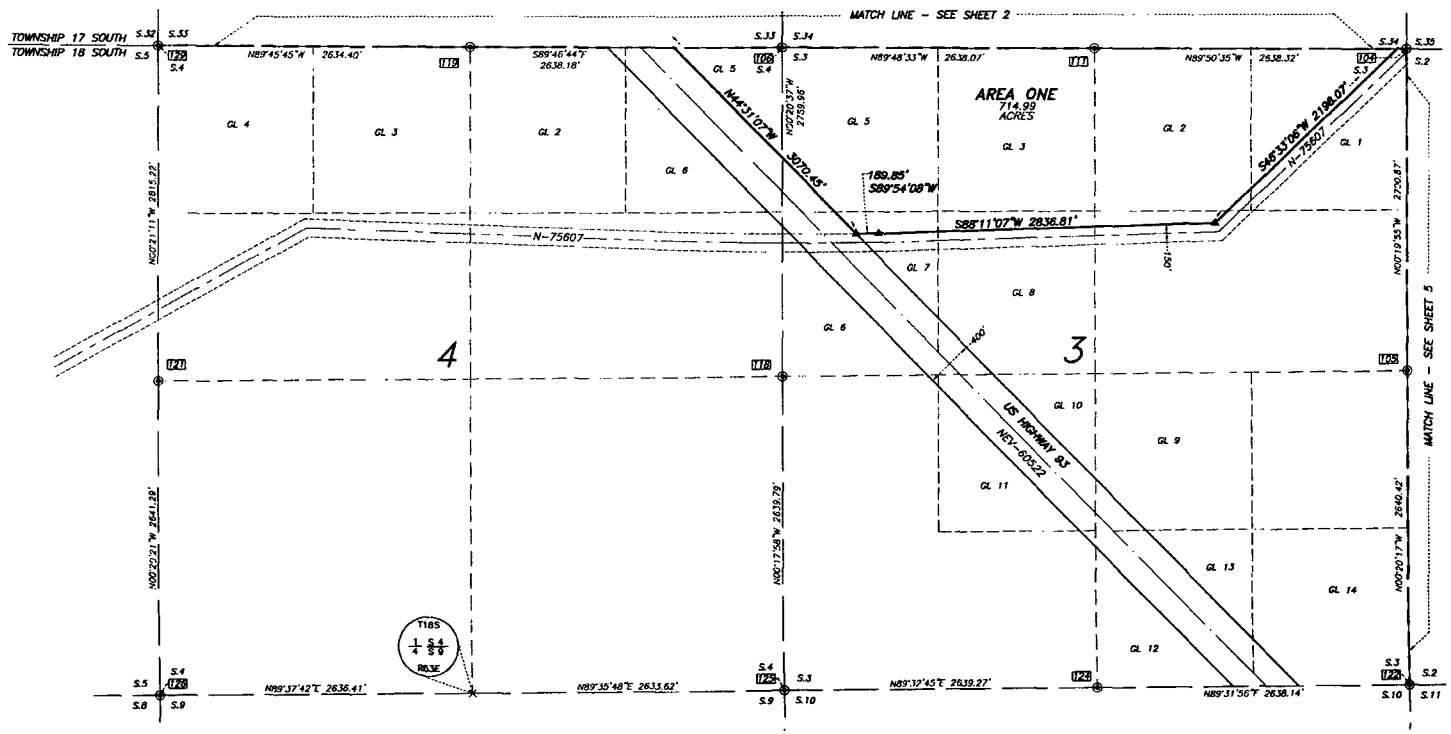
AW-14150

A-3



POINT NO. 104
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 105
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.8' ABOVE NATURAL GROUND

POINT NO. 106
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 1.2' ABOVE NATURAL GROUND

POINT NO. 111
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 118
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 1.0' ABOVE NATURAL GROUND

POINT NO. 119
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, PIPE IS BENT LEANING 0.4' EAST

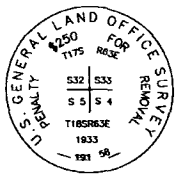
POINT NO. 121
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE

POINT NO. 122
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.7' ABOVE NATURAL GROUND

POINT NO. 124
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.6' ABOVE NATURAL GROUND

POINT NO. 125
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 126
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.7' ABOVE NATURAL GROUND



POINT NO. 129
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.8' ABOVE NATURAL GROUND

LEGEND

	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTER LINE
	AREA ONE BOUNDARY LINE
	HIGHWAY CENTERLINE
	SECTION LINE
	QUARTER SECTION LINE
	GOVERNMENT LOT LINE
	HIGHWAY RIGHT-OF-WAY LINE
NEV-60522 N-75607	BLM CASE FILE NUMBER
104	MONUMENT IDENTIFICATION NUMBER
S.35	SECTION NUMBER
GL 1	GOVERNMENT LOT NUMBER
×	CALCULATED POINT
⊗	FOUND MONUMENTATION AS SHOWN AND DESCRIBED
▲	SET 5/8" REBAR AND 2" ALUMINUM CAP STAMPED "J P HIGGINS, PLS 13601"

PROFESSIONAL LAND SURVEYOR
JASON PAUL HIGGINS
Exp: 06/30/15
No. 13601
STATE OF NEVADA

13 August 2014

SHEET 4 OF 5

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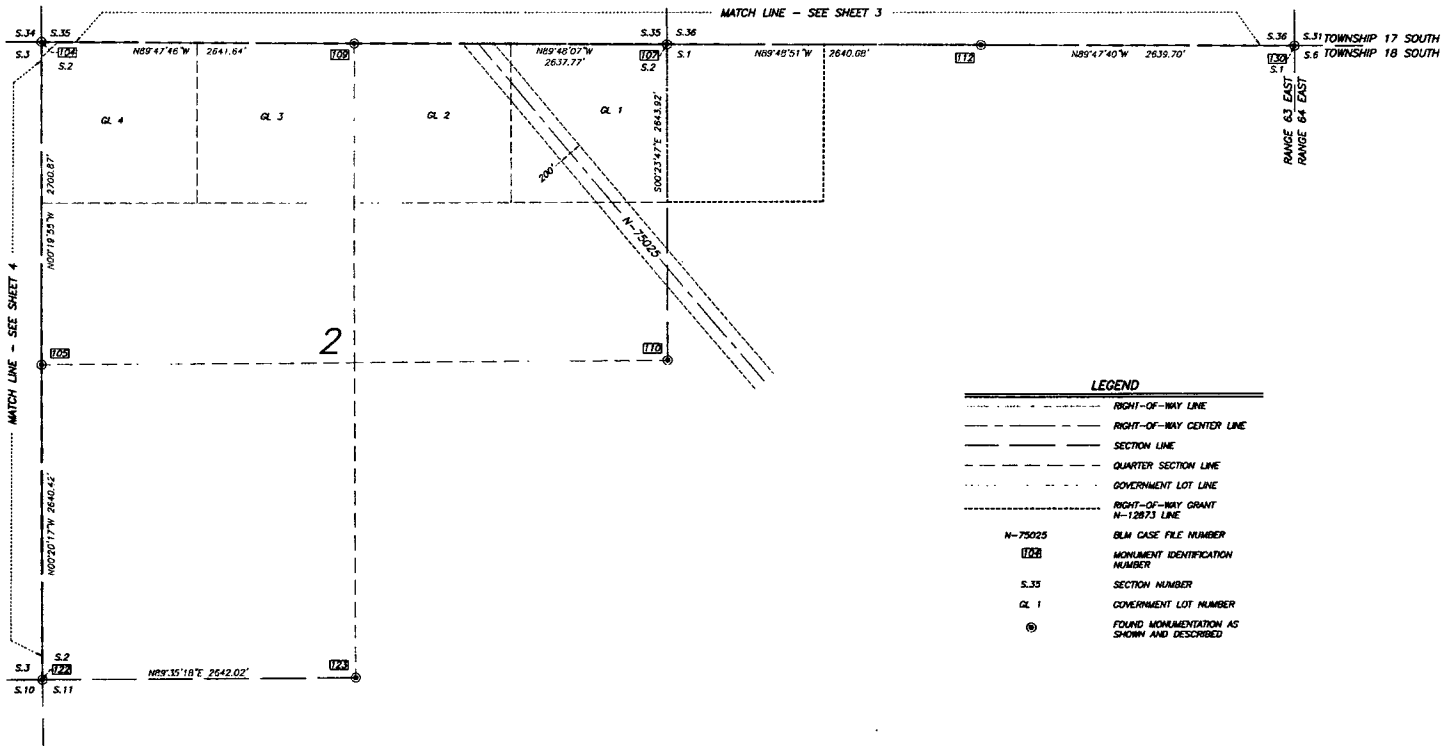
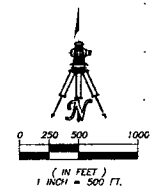
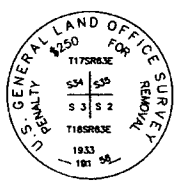
BN-14150





LEGEND

	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTER LINE
	SECTION LINE
	QUARTER SECTION LINE
	GOVERNMENT LOT LINE
	RIGHT-OF-WAY GRANT N-12873 LINE
N-75025	BLM CASE FILE NUMBER
104	MONUMENT IDENTIFICATION NUMBER
S.35	SECTION NUMBER
GL 1	GOVERNMENT LOT NUMBER
⊗	FOUND MONUMENTATION AS SHOWN AND DESCRIBED



POINT NO. 104
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 105
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.8' ABOVE NATURAL GROUND

POINT NO. 107
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.5' ABOVE NATURAL GROUND

POINT NO. 109
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.4' ABOVE NATURAL GROUND

POINT NO. 110
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.6' ABOVE NATURAL GROUND

POINT NO. 112
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE, 0.8' ABOVE NATUMAL GROUND

POINT NO. 122
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.7' ABOVE NATURAL GROUND

POINT NO. 123
FOUND 2 1/2" BRASS CAP ON 1" STEEL PIPE

POINT NO. 130
FOUND 3 1/4" BRASS CAP ON STEEL PIPE, 0.2' ABOVE NATURAL GROUND

PROFESSIONAL LAND SURVEYOR
JASON PAUL HIGGINS
Exp. 06/30/15
No. 13801
MONTANA

13 AUGUST 2014

SHEET 5 OF 5

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INV-14150

A4

APPENDIX B

Visual Contrast Rating Analysis and Simulations

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 10.17.2014

District/ Field Office: Las Vegas Field Office

Resource Area: Las Vegas

Activity (program): Generation

SECTION A. PROJECT INFORMATION

1. Project Name: Harry Allen Solar Energy Center	4. Location Township_____	5. Location Sketch
2. Key Observation Point: 1/ U.S. 93 eastbound	Range _____	
3. VRM Class: IV	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently sloping valley floor (FG/MG) Rugged irregular ridges and mountains (BG)	Low, rounded, numerous shrubs and grasses (FG/MG) Flat, low, indistinct vegetation (BG)	Strong and regular angular and straight towers (FG/MG) Indistinct buildings and areas cleared of vegetation (BG)
LINE	Flat valley floor (FG) Angular, rugged mountains cut by irregular broken lines (BG)	Rounded, soft irregular edges (FG/MG) Strong edge to cleared areas around plant (BG)	Complex network of horizontal, vertical, angular lines of transmission, railroad, fence line, and highway. Geometric
COLOR	Tan exposed soils along highway and valley floor (FG/MG) Dark, flat grayish browns in mountains (BG)	Subtle green, gray, tans.	Flat subtle metallic grays, tans, and wooden browns.
TEX-TURE	Coarse and uneven gravels (BG) Smooth valley floor (MG, BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently rolling valley floor (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs and grasses (FG/MG) Flat, low, indistinct vegetation (BG)	Regular, geometric
LINE	Horizontal, angular	Hard regular edge	Simple and strong, vertical and horizontal
COLOR	Tan exposed soils along highway and valley floor (FG/MG) Dark, flat grayish browns in mountains (BG)	May result in brighter greens along edges of disturbance	Darker more reflective gray
TEX-TURE	Coarse and uneven gravels (BG) Smooth valley floor (MG, BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION D. CONTRAST RATING __SHORT TERM X_LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X				X
	LINE				X		X				X		
	COLOR				X		X				X		
	TEXTURE				X		X				X		

2. Does project design meet visual resource management objectives? _X_ Yes ___No
(Explain on reverse side)

3. Additional mitigating measures recommended
_X_Yes __No (Explain on reverses side)

Evaluator's Names — Date
Steve Leslie — 10.17.2014

SECTION D. (Continued)

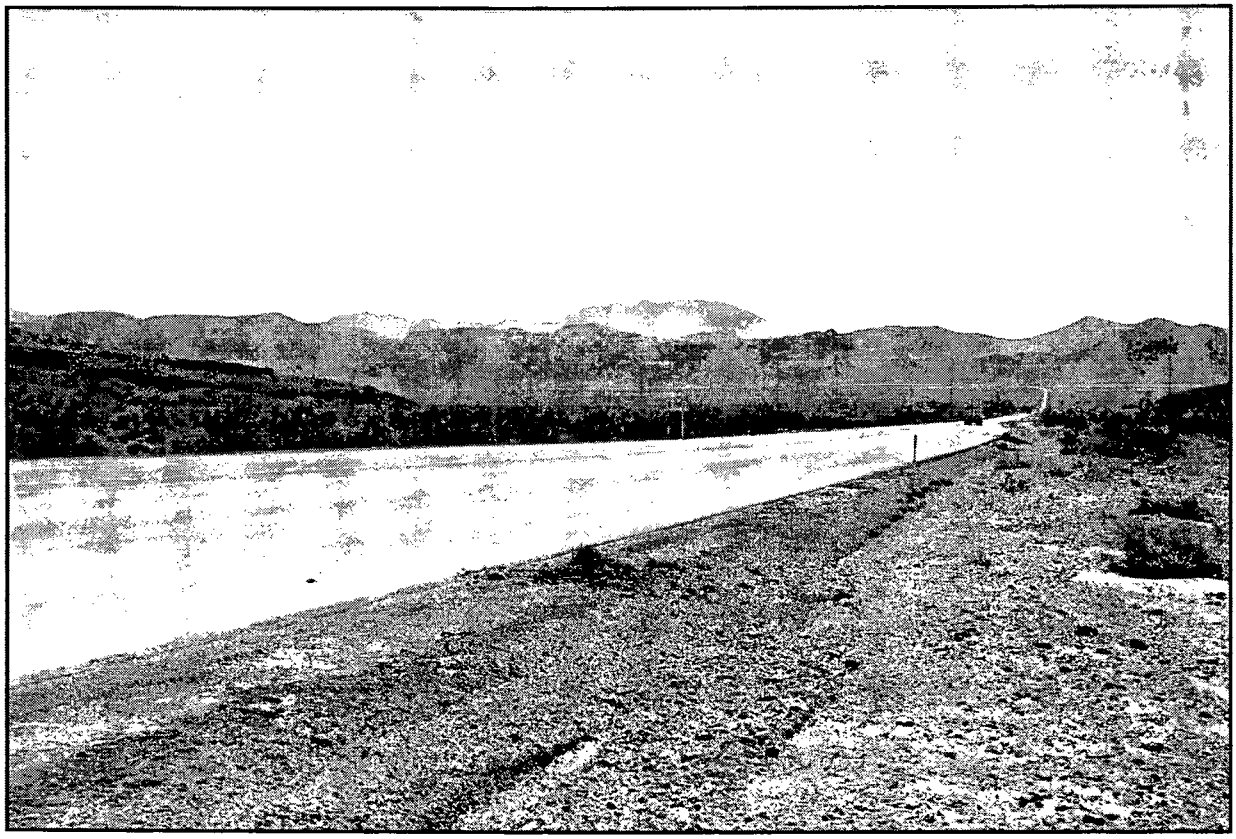
Comments from item 2.

This KOP is representative of viewers traveling on U.S. 93. Speed limits along this portion of U.S. 93 are 70 miles per hour and drivers continue east, the project would be visible for approximately 4-miles, or 3.4 minutes. The project would be viewed from U.S. 93 for a short duration and would be viewed in context with existing modifications, including transmission structures, both the 93 and the I-15, and the existing combined cycle generation station.

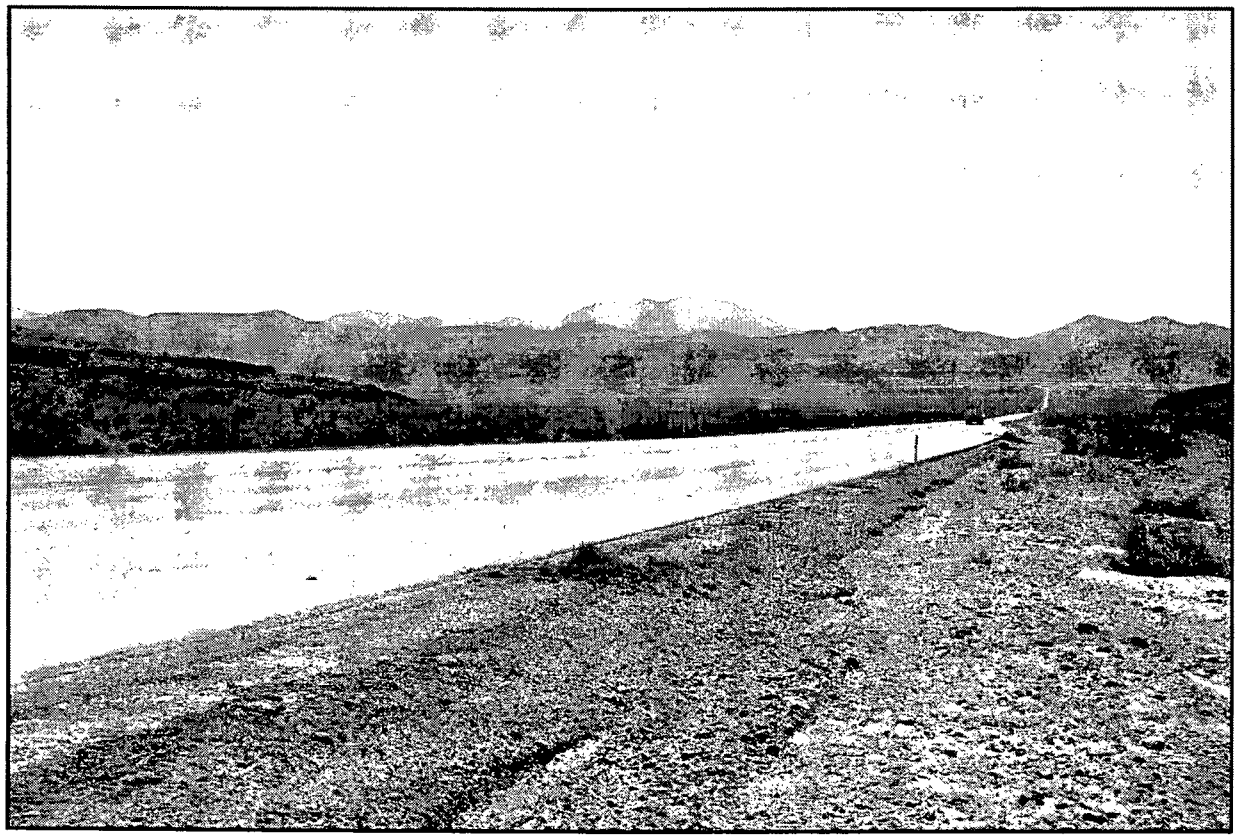
There would be moderate contrasts to the line, color, and texture of the vegetation; and to the line, color, and texture of structure. Because of the limited viewing time, the movement and speed associated with surrounding traffic, and the existing landscape modifications, it would not demand the attention or dominate the landscape. The project contrast would meet VRM class IV objectives.

Additional Mitigating Measures (See item 3)

The BLM Final Solar PEIS established a number of requisite design features to address potential visual impacts that will be incorporated as needed into the Dry Lake Solar Energy Center.



Existing View



Simulated View

DRY LAKE SOLAR - INVENERGY

VisionScape IMAGERY

View 1

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 10.17.2014

District/ Field Office: Las Vegas Field Office

Resource Area: Las Vegas

Activity (program): Generation

SECTION A. PROJECT INFORMATION

1. Project Name: Harry Allen Solar Energy Center	4. Location Township_____	5. Location Sketch
2. Key Observation Point: 2/Dry Lake	Range _____	
3. VRM Class: IV	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently rolling valley floor and flat dry lake bed (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs, taller along edge of dry lake bed (FG/MG) Flat, low, indistinct vegetation (BG)	Square, geometric buildings Strong V-shaped towers and regular angular towers (FG/MG) Indistinct (BG)
LINE	Bold straight edge of dry lake (FG) Angular, rugged mountains cut by irregular broken lines (BG)	Rounded, soft irregular edges (FG/MG) Indistinct (BG)	Complex network of horizontal, vertical, angular lines. Open, angular transmission structures Geometric
COLOR	Brilliant white dry lake bed and exposed dull tan soils of valley floor (FG) Dark, flat grayish browns in mountains (BG)	Subtle green, gray, tans.	Flat subtle metallic grays, tans, and reddish browns.
TEX-TURE	Smooth to fine dry lake bed, valley floor (FG) Coarse and uneven (BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently rolling valley floor and flat dry lake bed (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs, taller along edge of dry lake bed (FG/MG) Flat, low, indistinct vegetation (BG)	Regular, geometric
LINE	Horizontal, angular	Hard regular edge	Simple and strong, vertical and horizontal
COLOR	Brilliant white dry lake bed and exposed dull tan soils of valley floor (FG) Dark, flat grayish browns in mountains (BG)	May result in brighter greens along edges of disturbance	Darker, more reflective gray
TEX-TURE	Smooth to fine dry lake bed, valley floor (FG) Coarse and uneven (BG)	Smooth	Smooth

SECTION D. CONTRAST RATING __SHORT TERM _X_LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE			X			X				X		
	COLOR				X		X				X		
	TEXTURE				X		X				X		

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X_Yes __No (Explain on reverses side)

Evaluator's Names — Date
Steve Leslie — 10.17.2014

SECTION D. (Continued)

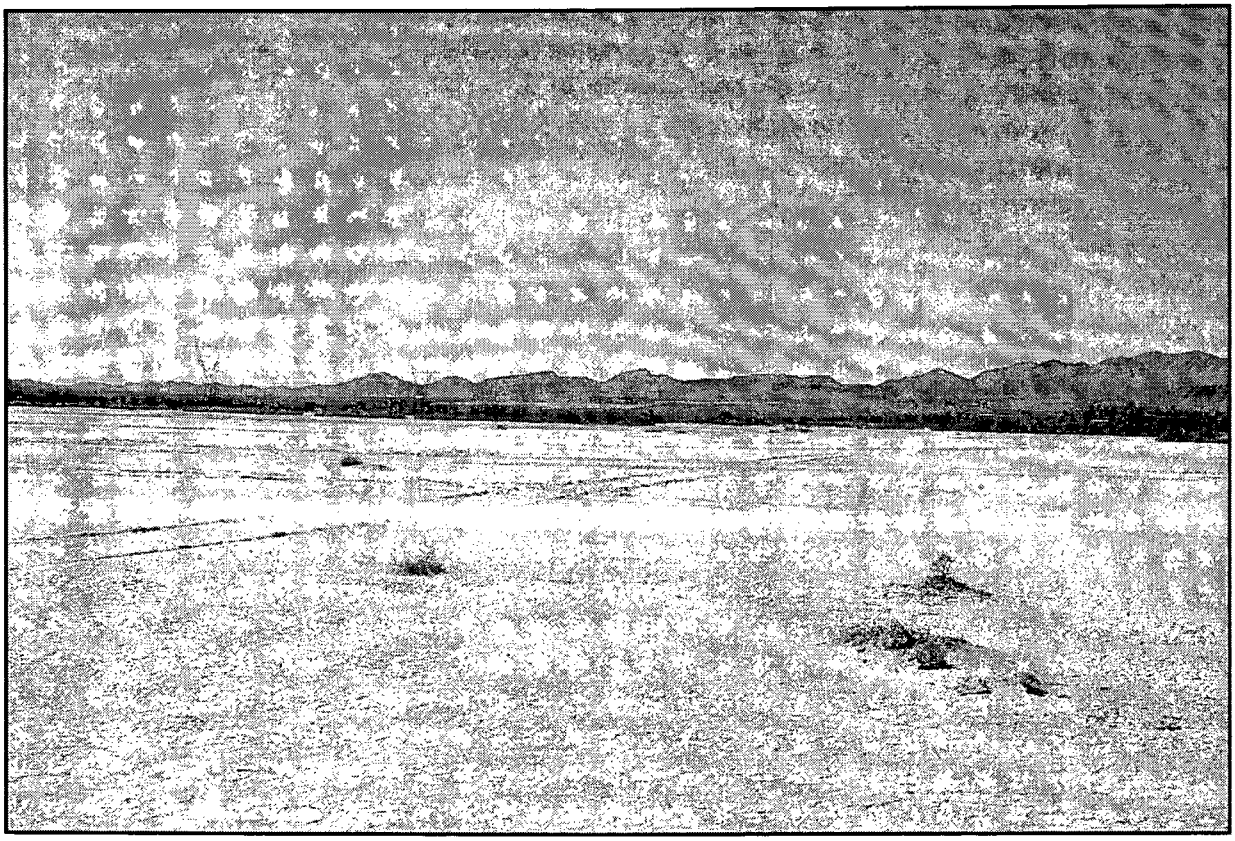
Comments from item 2.

The Dry Lake Bed is a dispersed recreation area popular for target shooting and motorized recreation. The project would be viewed from this KOP for longer durations, but would not be the primary focus of viewers during motorized recreation activities. This KOP is also at a lower observational angle to the project which results in the project components appearing to have less depth than in actuality; however the HASEC is located in part on a downward sloping terrain and has greater visibility in places. The project would be viewed in context with existing modifications, including transmission structures crossing the dry lake bed, transmission structures crossing the project area; the Harry Allen combined cycle station facilities, and numerous roads and routes.

There would be moderate project contrasts that do begin to attract attention and begin to dominate the characteristic landscape. However, because of the types of recreational use, lower observational angle, the brightness of the dry lake bed surface, and existing landscape modifications, it does not demand attention or dominate the landscape. The project contrast would meet VRM class IV objectives.

Additional Mitigating Measures (See item 3)

The BLM Final Solar PEIS established a number of requisite design features to address potential visual impacts that will be incorporated as needed into the Dry Lake Solar Energy Center.



Existing View

Simulated View

DRY LAKE SOLAR - INVENERGY

VisionScape IMAGERY

View 2

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 10.17.2014

District/ Field Office: Las Vegas Field Office

Resource Area: Las Vegas

Activity (program): Generation

SECTION A. PROJECT INFORMATION

1. Project Name: Harry Allen Solar Energy Center	4. Location Township_____	5. Location Sketch
2. Key Observation Point: 3/I-15 southbound	Range _____	
3. VRM Class: IV	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently rolling valley floor (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs and grasses (FG/MG) Flat, low, indistinct vegetation (BG)	Square, geometric buildings and areas cleared of vegetation Strong and regular angular and straight towers (FG/MG) Indistinct (BG)
LINE	Flat valley floor (FG) Angular, rugged mountains cut by irregular broken lines (BG)	Rounded, soft irregular edges (FG/MG) Strong edge to cleared areas around plant (BG)	Complex network of horizontal, vertical, angular lines of transmission, railroad, fence line, and highway. Geometric
COLOR	Tan exposed soils along highway and valley floor (FG/MG) Dark, flat grayish browns in mountains (BG)	Subtle green, gray, tans.	Flat subtle metallic grays, tans, and wooden browns.
TEX-TURE	Smooth valley floor (FG) Coarse and uneven (BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently rolling valley floor (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs and grasses (FG/MG) Flat, low, indistinct vegetation (BG)	Regular, geometric
LINE	Horizontal, angular	Hard regular edge	Simple and strong, vertical and horizontal
COLOR	Tan exposed soils along highway and valley floor (FG/MG) Dark, flat grayish browns in mountains (BG)	May result in brighter greens along edges of disturbance	Darker reflective gray
TEX-TURE	Smooth valley floor (FG) Coarse and uneven (BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION D. CONTRAST RATING __SHORT TERM X_LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE			X			X				X		
	COLOR				X		X				X		

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X_Yes __No (Explain on reverses side)

Evaluator's Names — Date
Steve Leslie — 10.17.2014

	TEXTURE				X				X		X			

SECTION D. (Continued)

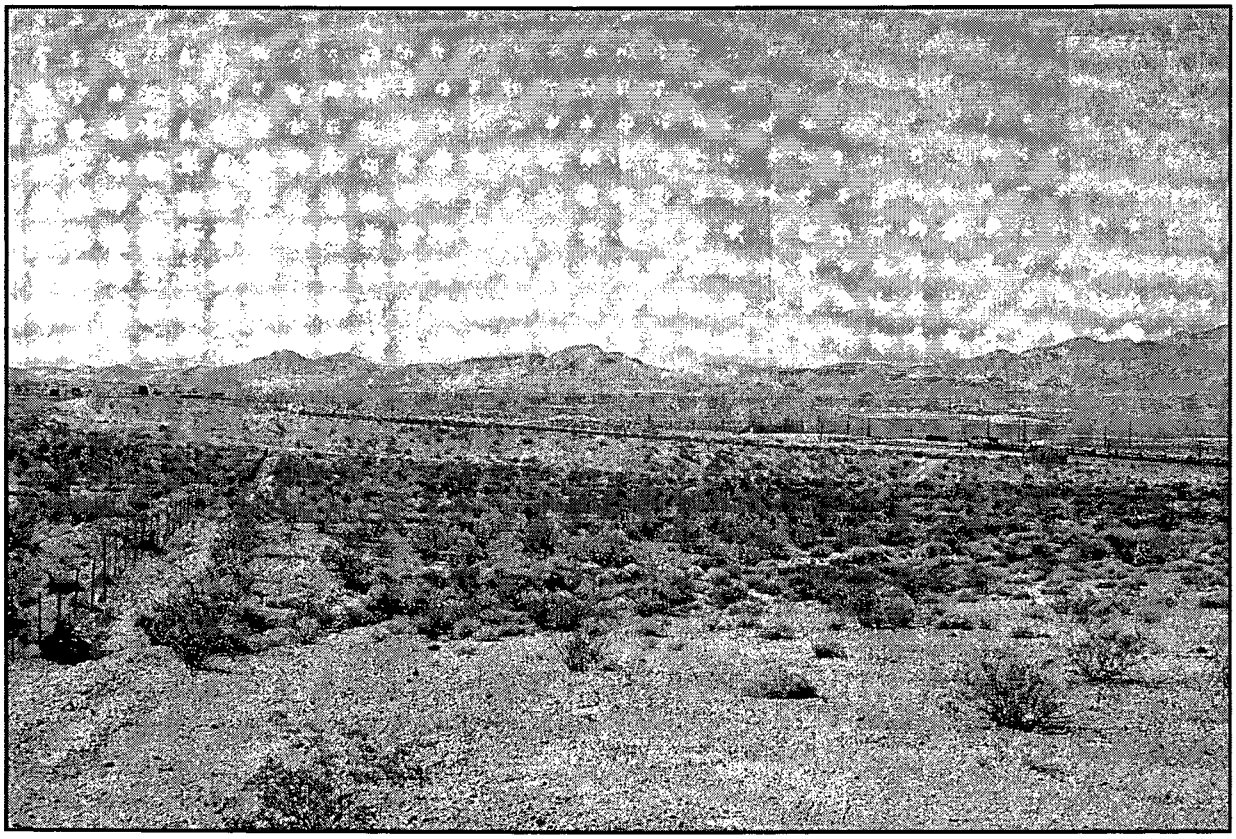
Comments from item 2.

This KOP is representative of viewers traveling on the I-15. This KOP is at a superior observational angle to the project and the maximum area of development associated with the project would be visible. The project more than 3-miles from the KOP, but would continue to be intermittently visible as travelers continue south along the I-15. Speed limits along this portion of the I-15 are 75 miles per hour and the project would be visible for approximately 6-miles, or 4.8 minutes. The project would be viewed from this KOP for a short duration and would be viewed in context with existing modifications, including the interstate, surrounding traffic, transmission structures, the railroad, and the existing solar and combined cycle generation stations.

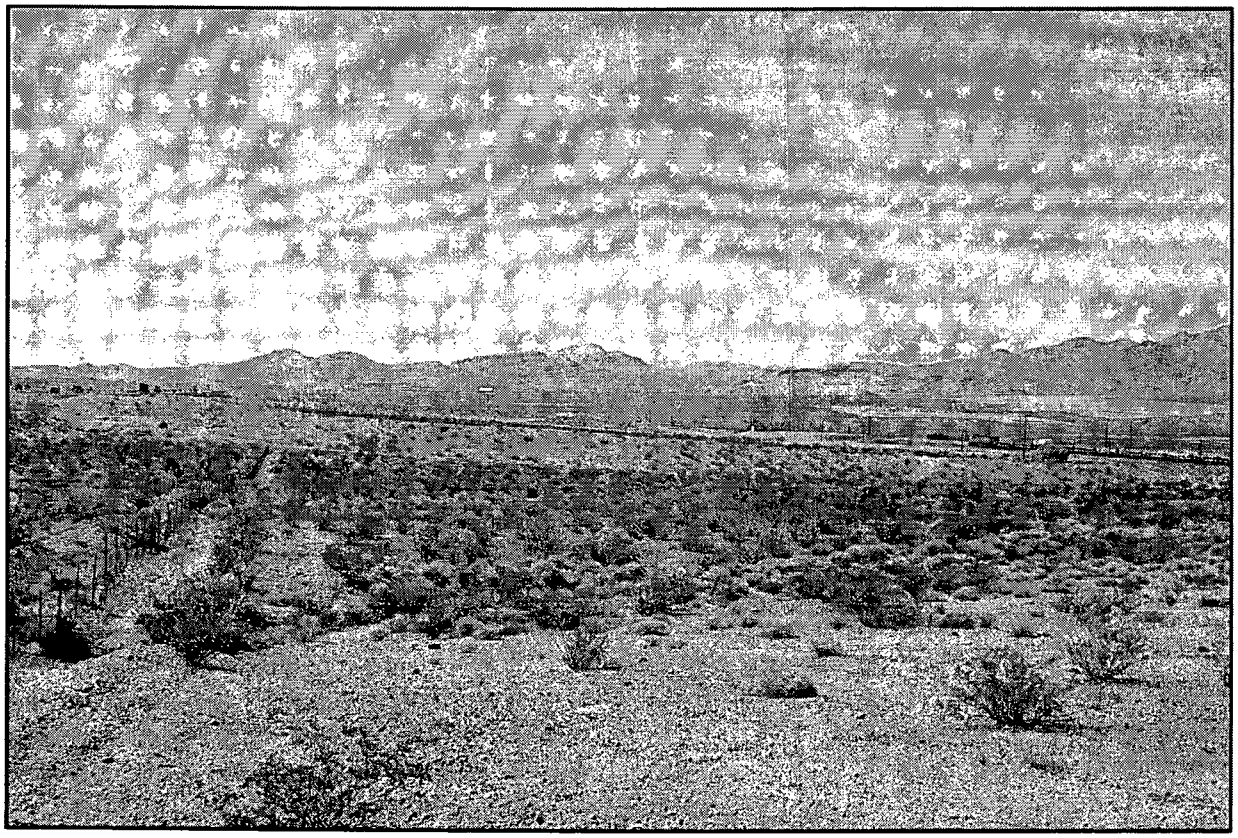
There would be no contrast resulting from changes to landform. There would be moderate contrasts to the line and color of the vegetation, and to the line, color, and texture of structures. These contrasts would begin to attract attention and begin to dominate the characteristic landscape; however, because of the limited viewing time, the movement and speed associated with surrounding traffic, and the existing landscape modifications, it would not demand the attention of the viewers along the interstate or dominate the landscape. The project contrast would meet VRM class IV objectives.

Additional Mitigating Measures (See item 3)

The BLM Final Solar PEIS established a number of requisite design features to address potential visual impacts that will be incorporated as needed into the Dry Lake Solar Energy Center.



Existing View



Simulated View

DRY LAKE SOLAR - INVENERGY

VisionScape IMAGERY

View 3

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 10.17.2014

District/ Field Office: Las Vegas Field Office

Resource Area: Las Vegas

Activity (program): Generation

SECTION A. PROJECT INFORMATION

1. Project Name: Harry Allen Solar Energy Center	4. Location Township_____	5. Location Sketch
2. Key Observation Point: 5/Loves	Range _____	
3. VRM Class: IV	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently sloping valley floor (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs and grasses (FG/MG) Flat, low, indistinct vegetation (BG)	Bold square signs at travel center, boxy gas pumps, buildings (immediate FG). Strong angular shaped towers and regular (FG/MG) Square, blocky buildings (BG)
LINE	Bold straight edge of dry lake (FG) Angular, rugged mountains cut by irregular broken lines (BG)	Rounded, soft irregular edges (FG/MG) Indistinct (BG)	Complex network of horizontal, vertical, angular lines. Bold line of 93 crossing immediate FG
COLOR	White to gray gavels along road (FG) Tan exposed soils of valley floor (MG) Dark, flat grayish browns in mountains (BG)	Subtle and flat green, gray, tan.	Flat subtle metallic grays, tans, and browns.
TEX-TURE	Coarse, regular gravels and rocks (FG) Smooth valley floor (MG) Coarse and uneven (BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Large, open gently sloping valley floor (FG/MG) Rugged irregular mountains (BG)	Low, rounded, numerous shrubs and grasses (FG/MG) Flat, low, indistinct vegetation (BG)	Regular, geometric
LINE	Horizontal, angular	Hard regular edge	Simple and strong, vertical and horizontal
COLOR	White to gray gavels along road (FG) Tan exposed soils of valley floor (MG) Dark, flat grayish browns in mountains (BG)	May result in brighter greens along edges of disturbance	Darker more reflective gray
TEX-TURE	Coarse, regular gravels and rocks (FG) Smooth valley floor (MG) Coarse and uneven (BG)	Coarse (FG) Smooth, patchy (BG)	Smooth

SECTION D. CONTRAST RATING __SHORT TERM X_LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE			X			X				X		
	COLOR			X			X				X		

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X__Yes __No (Explain on reverses side)

Evaluator's Names: Steve Leslie

Date: 10.17.2014

	TEXTURE			X				X			X			

SECTION D. (Continued)

Comments from item 2.

This KOP is representative of people leaving the Loves Travel Center. This KOP is at a lower observational angle to the project which results in the project components appearing to have less depth than in actuality. The project would be visible from this KOP in context with existing modifications, including facilities associated with the travel center, numerous transmission structures, substations, and the existing combined cycle generation station. The project is approximately 3-miles west of the KOP, and views would be partially screened by the numerous transmission structures crossing in multiple directions across the valley. The project would be viewed from this KOP for a short duration as travelers stop and scan traffic to the west to turn out of the travel center. People at this KOP would be focused on oncoming and surrounding traffic, and the project would only begin to attract their attention. For people stopped at the travel center itself, either pumping gas, or visiting the store, the associated vehicle traffic and travel center facilities are the features that demand the viewers' attention, and dominate the landscape.

There would be moderate project contrasts to the line and color of vegetation, and to the line, color, and texture of structures. These contrasts would begin to attract attention and begin to dominate the characteristic landscape; however, because of the limited viewing time, the existing landscape modifications, and the movement associated with surrounding traffic, it would not demand attention or dominate the landscape. The project contrast meets VRM class IV objectives.

Additional Mitigating Measures (See item 3)

The BLM Final Solar PEIS established a number of requisite design features to address potential visual impacts that will be incorporated as needed into the Dry Lake Solar Energy Center.

Existing View

Simulated View

DRY LAKE SOLAR - INVENERGY

VisionScape IMAGERY

View 6

APPENDIX C

State Historic Preservation Office Letter of Concurrence

EO M. DROZDOFF, P.E.
Director
Department of Conservation and National Resources

REBECCA L PALMER
State Historic Preservation Officer

BRIAN SANDOVAL
Governor

STATE OF NEVADA

Address Reply to:
901 S. Stewart St, Suite 5004
Carson City, NV 89701-5248
Phone: (775) 684-3448
Fax: (775) 684-3442

shpo.nv.gov

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION OFFICE

October 23, 2014

Shonna Dooman
Assistant Las Vegas Field Office Manager
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130

RE: A Class III Cultural Resource Inventory of Dry Lake SEZ, Clark County, Nevada.
BLM Report: NVS0100-8100 5-2708/ Undertaking #2014-3286

Dear Ms. Dooman:

The Nevada State Historic Preservation Office (SHPO) has reviewed the subject documents in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

Areas of Potential Effect (APE):
The SHPO concurs with the Bureau of Land Management's (BLM) determination of the direct APE as defined in the subject documents.

The SHPO concurs with the BLM's determination of the indirect APE as defined in the subject documents.

Identification and National Register Eligibility:
The SHPO concurs with the BLM's determination that the identification efforts actions outline for the above-mentioned undertaking under NHPA are adequate for the both the direct and indirect APE.

The SHPO concurs with the BLM's determination that the following cultural resources are not eligible for the National Register of Historic Places under any of the Secretary's criteria:

26CK6136 26CK9947

As the historic road 26CK9405 is not fully recorded, the SHPO would concur with BLM's determination that the recorded portion does not embody any of the Secretary's criteria. We would, however, note that unidentified sections of the site remain unevaluated.

The BLM, in consultation with the Old Spanish Trail Association (OSTA) has identified a segment of the Old Spanish Trail, 26CK3848 within the indirect APE, which is eligible for the National Register of Historic Places under Criteria A and D.

The SHPO notes that the associated cultural resources inventory report identified 15 historic properties located within the indirect APE, which have been previously determined eligible for the National Register of Historic Places. It is currently unclear if this determination of National Register status was established in consultation with the SHPO. Could you please provide additional clarification on this point?

The SHPO notes that the associated cultural resources inventory report identifies the 19 cultural resources located within the indirect APE, which are unevaluated for the National Register of Historic Places.

Consultation:
The SHPO reminds the BLM that the agency must consult with Native American representatives concerning properties of religious or cultural significance that could be affected by the undertaking (36 CFR Part 800.4.a.4.). What efforts have been made to provide these representatives with an opportunity to comment on this undertaking? Please see BLM Instructional Memorandum No. NV-2011-073 for additional guidance.

The SHPO acknowledges receipt of documentation that consultation with the affected members of the public and representatives of organizations that have a demonstrated interest in historic properties that could be affected by the undertaking, such as OSTA, has been concluded per 36 CFR 800.3.c.5. and 36 CFR 800.3.d.

Effect:
Based upon the subject documents submitted to the SHPO which include identification of historic properties within the APE through professional survey and consultation with consulting parties, such as OSTA, the SHPO notes that there seems to be a potential for substantial alteration of the historic landscape. Based on this information the SHPO would concur with a BLM's determination that the proposed undertaking will pose an adverse effect to the identified historic properties within this established APE.

The SHPO looks forward to further consultation on this undertaking with the BLM, which should include a formal federal agency determination of effect to historic properties and, potentially, the development of an agreement document to address a determination of adverse effect, should that be the federal agency's determination of effect for this undertaking.

Should you have any questions concerning this correspondence, please contact Jessica Axsom at (775)684-3445 or by e-mail at jaxsom@shpo.nv.gov.

Sincerely,

Julie H. Ernstein, Ph.D., RPA
Deputy State Historic Preservation Officer

EXHIBIT G

PUBLIC UTILITIES COMMISSION OF NEVADA
DRAFT NOTICE
(Applications, Tariff Filings, Complaints, and Petitions)

Pursuant to Nevada Administrative Code ("NAC") 703.162, the Commission requires that a draft notice be included with all applications, tariff filings, complaints and petitions. Please complete and include **ONE COPY** of this form with your filing. (Completion of this form may require the use of more than one page.)

A title that generally describes the relief requested (see NAC 703.160(4)(a)):

Application Of Invenergy Solar Development, LLC For A Permit To Construct A Utility Facility Under The Utility Environmental Protection Act

The name of the applicant, complainant, petitioner or the name of the agent for the applicant, complainant or petitioner (see NAC 703.160(4)(b)):

The petitioner is Invenergy Solar Development, LLC ("Invenergy").
Linda M. Bullen of Bullen Law, LLC is legal counsel for the petitioner.

A brief description of the purpose of the filing or proceeding, including, without limitation, a clear and concise introductory statement that summarizes the relief requested or the type of proceeding scheduled **AND** the effect of the relief or proceeding upon consumers (see NAC 703.160(4)(c)):

Pursuant to the Application, Invenergy respectfully requests that the Public Utilities Commission of Nevada grant it a permit to construct a photovoltaic solar electric generating array and related infrastructure (the proposed Harry Allen Solar Energy Center) on federal land managed by the U.S. Bureau of Land Management under lease to Invenergy in Clark County, Nevada (the "Proposed Facility").

An environmental review of the Proposed Facility was conducted under the National Environmental Policy Act, 42 U.S.C. § 4321 et seq. An environmental assessment was prepared by the U.S. Bureau of Land Management following the conclusion of an environmental review process.

A statement indicating whether a consumer session is required to be held pursuant to Nevada Revised Statute ("NRS") 704.069(1)[1]:

A consumer session is not required.

If the draft notice pertains to a tariff filing, please include the tariff number **AND** the section number(s) or schedule number(s) being revised.

The draft notice does not pertain to a tariff filing.

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[1] NRS 704.069 states in pertinent part:

1. The Commission shall conduct a consumer session to solicit comments from the public in any matter pending before the Commission pursuant to NRS 704.061 to 704.110 inclusive, in which:

(a) A public utility has filed a general rate application, an application to recover the increased cost of purchased fuel, purchased power, or natural gas purchased for resale or an application to clear its deferred accounts; and

(b) The changes proposed in the application will result in an increase in annual gross operating revenue, as certified by the applicant, in an amount that will exceed $50,000 or 10 percent of the applicant's annual gross operating revenue, whichever is less.

EXHIBIT H

Affidavit of Publication

STATE OF NEVADA)
COUNTY OF CLARK) SS:

LIONEL SAWYER & COLLINS
300 S 4TH ST
LAS VEGAS NV 89101-6014

Account # **22569**
Ad Number **0000395708**

Stacey M. Lewis, being 1st duly sworn, deposes and says: That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for, was continuously published in said Las Vegas Review-Journal and / or Las Vegas Sun in 1 edition(s) of said newspaper issued from 12/26/2014 to 12/26/2014, on the following days:

12 / 26 / 14

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

APPLICATION FOR A PERMIT TO CONSTRUCT A UTILITY FACILITY PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT

Invenergy Solar Development, LLC ("Invenergy Solar") is submitting to the Public Utilities Commission of Nevada (the "Commission"), pursuant to the Nevada Utility Environmental Protection Act ("UEPA"), an application (the "Application") for a permit to construct a utility facility (the "Proposed Facility") under Nevada Revised Statutes ("NRS") Sections 704.820 to 704.900 and Nevada Administrative Code ("NAC") Sections 703.415 to 703.427. The Proposed Facility will be located in the U.S. Department of Interior, Bureau of Land Management ("BLM") Dry Lake Solar Energy Zone ("SEZ"), approximately 15 miles northeast of Las Vegas in Clark County, Nevada.

This Proposed Facility is a 130 megawatt alternating current photovoltaic solar power generating facility which will interconnect at Nevada Power Company's Harry Allen Substation via a 230 kilovolt generation intertie.

The contents of the Application will include, but are not limited to:

1. A description of the location of the Proposed Facility.
2. A general description of the Proposed Facility.
3. A copy and summary of any studies which have been made of the environmental impact of the Proposed Facility.
4. A description of any reasonable alternate locations for the Proposed Facility, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the location is best suited for the Proposed Facility.
5. Proof that a public notice of the application was given to persons residing in the municipalities entitled to receive notice by the publication of a summary of the application in newspapers published and distributed in the area in which the utility facility is proposed to be located.
6. Proof that a copy of the notice has been submitted to the Nevada State Clearinghouse within the State Department of Conservation and Natural Resources.
7. An explanation of the nature of the probable effect on the environment.
8. An explanation of the extent to which the proposed utility facility is needed to ensure reliable utility service to customers in this State.
9. An explanation of how the need for the Proposed Facility balances any adverse effects on the environment.
10. An explanation of how the Proposed Facility represents the minimum adverse effect on the environment.
11. A explanation of how the location of the Proposed Facility conforms to applicable state and local laws and regulations.
12. An explanation of how the Proposed Facility will serve the public interest.

A copy of the Application will be available on the Commission's website following Invenergy Solar's filing of the Application. Additional information about the UEPA process and a person's right to participate in the process can be found in NRS and NAC Chapters 703 and 704.

PUB: December 26, 2014
LV Review-Journal

/S/ Stacey M Lewis
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 26th day of December, 2014

Notary Mary Lee

MARY A. LEE
Notary Public State of Nevada
No. 09-8941-1
My Appt. Exp. Nov. 13, 2016

EXHIBIT I

CERTIFICATE OF SERVICE

I hereby certify that on January 7, 2015, I caused to be served a true and correct copy of the APPLICATION OF INVENERGY SOLAR DEVELOPMENT, LLC FOR A PERMIT TO CONSTRUCT A UTILITY FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT via electronic mail or U.S. Mail, as indicated below, to the following:

Via Hand Delivery to:

Staff Counsel Support
Public Utilities Commission of Nevada
9075 W. Diablo Drive, Suite 250
Las Vegas, Nevada 89148

Via U.S. Mail to:

Office of the Attorney General
Bureau of Consumer Protection
Attn: Mr. Eric Witkoski, Chief Deputy Attorney General and Consumer Advocate
100 North Carson Street
Carson City, Nevada 89701-4717

Public Utilities Commission of Nevada
Attn: Ms. Breanna Potter, Assistant Commission Secretary
1150 East William Street
Carson City, Nevada 8971-3109

Nevada Department of Conservation and Natural Resources
Attn: Mr. Leo Drozdoff, Director
901 South Stewart Street, Suite 1003
Carson City, Nevada 89701

Via Electronic Mail to:

Public Utilities Commission of Nevada
Attn: Ms. Tammy Cordova, Staff Counsel
9075 W. Diablo Drive, Suite 250
Las Vegas, Nevada 89148

Nevada State Clearinghouse
Nevada Division of State Lands
Attn: Mr. Skip Canfield
901 South Stewart Street, Suite 5003
Carson City, NV 89701-5246
nevadaclearinghouse@lands.nv.gov

Nevada Division of Environmental Protection
Attn: Dr. Colleen Cripps, Administrator
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249
cripps@ndep.nv.gov

Diana Alba
Clark County Clerk
clerkem@ClarkCountyNV.gov

Dated: January 7, 2015

Linda M. Bullen

Linda M. Bullen