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WRITER'S DIRECT DIAL NUMBER
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December 22, 2009

Via Federal Express

Ms. Nancy Krassner
Assistant Commission Secretary
Public Utilities Commission of Nevada
1150 East William Street
Carson City, NV 89701

Re: Application of NextLight Renewable Power, LLC for Permit to Construct the Boulder City Solar Facility Pursuant to the Utility Environmental Protection Act

Dear Ms. Krassner,

Enclosed for filing, please find the Application of NextLight Renewable Power, LLC ("NextLight") for Permit to Construct the Boulder City Solar Facility Pursuant to the Utility Environmental Protection Act, pursuant to NRS 704.870(2).

The documents included in this packet are:

1. UEPA Application for a Permit to Construct a Photovoltaic Power Facility under the Utility Environmental Protection Act;

2. Exhibits A through E (*see* Table of Contents, listing each Exhibit), including the required Public Notice and Affidavit of Publication (Exhibit D) and Proof of Service (Exhibit E).

In order to comply with the application requirements prescribed by the Commission, all exhibits to the application are on standard letter sized paper. In order to satisfy this requirement, certain maps contained in Exhibits A (Figures 1, 2 & 4) and B were reduced in size considerably. As courtesy copies, we are enclosing 5 additional color copies of Exhibit A, Figure 1, and 5 additional full scale copies of Exhibit A, Figures 2 & 4, and Exhibit B, so that all these exhibits can be more accurately reviewed. Please distribute one set of the enclosed courtesy copies to each of Commissioner Kelly, Commissioner Wagner, and Commissioner Thompson, and please keep the remaining 2 sets of copies with Commission staff. NextLight will also provide one set of the courtesy copies to each of Alaina Burtenshaw, Esq., Eric Witkowski, Esq. and William Stanley, Esq.

NextLight requests that the Commission accept this Application under UEPA as complying with the statutory and regulatory requirements listed in the Application.

If you have any questions about this filing, please do not hesitate to contact me directly at (702) 383-8970.

Best Regards,

NextLight Renewable Power, LLC

By: Linda Bullen

Linda M. Bullen
Lionel Sawyer & Collins
lbullen@lionelsawyer.com
Tel: (702) 383-8970
Fax: (702) 383-8845

Attorneys for NextLight Renewable Power, LLC

Enclosures: List of Enclosures
Initial UEPA Application
$200 Application Fee

cc: Mike Hatfield
Bill Chilson
Roy Skinner
Al Ridley

LIST OF ENCLOSURES

UEPA Application for a Permit to Construct
NextLight Renewable Power, LLC
Boulder City Solar Project
Clark County, Nevada
December 22, 2009

This application includes the following:

A) $200 Filing Fee - attached;

B) Public Utilities Commission of Nevada Draft Notice;

C) UEPA Initial Application, comprised of the following:

1) Table of Contents
2) List of Exhibits
3) Introduction
4) Information Regarding the Applicant
5) Responses to Required Disclosures
6) Description of Location
7) Description of the Proposed Facility
8) Summary of Environmental Impact Studies
9) Description of Alternate Locations
10) Proof of Public Notice
11) Proof of Submittal to the Nevada State Clearinghouse
12) Probable Effect on Environment
13) Need to Ensure Reliable Service
14) Need Versus Environmental Effect
15) Minimum Adverse Impact on the Environment
16) Agency Approval List and Description of Required Permits
17) Serving the Public Interest
18) Conclusion and Request for Relief
19) Exhibits A - E

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(5)(a)):

Pursuant to the Utility Environmental Protection Act ("UEPA"), and the provisions set forth in Chapter 704 of the Nevada Revised Statutes, and Chapter 703 of the Nevada Administrative Code, NextLight Renewable Power, LLC is filing an Application with the Public Utilities Commission of Nevada for a permit to construct and operate a solar photovoltaic power facility to be known as the Boulder City Solar Project (the "Project").

The name of the applicant, complainant, petitioner or the name of the agent for the applicant, complainant or petitioner (see NAC 703.160(5)(b)):

The applicant is NextLight Renewable Power, LLC.
Linda Bullen of Lionel Sawyer & Collins is legal counsel for the applicant.

A brief description of the purpose of the filing or proceeding, including, without limitation, a clear and concise introductory statement that summarizes the relief requested or the type of proceeding scheduled **AND** the effect of the relief or proceeding upon consumers (see NAC 703.160(5)(c)):

Based on the Application and any supplement thereto, Nextlight respectfully requests that the Public Utilities Commission of Nevada grant to NextLight a permit to construct the Project. The Project will use commercially proven technology to convert sunlight directly into direct current electricity via a photoelectric effect, and NextLight is developing the Project to produce clean, renewable electrical power to meet the growing demand for such power in Nevada and the Western U.S., and to satisfy state and federal renewable portfolio standards.

NextLight will supplement the Application as necessary pursuant to the requests and orders of the Commission.

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.**

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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.

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.

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

IN THE MATTER OF:

Application of NextLight Renewable Power, LLC For Permit to Construct the Boulder City Solar Facility Pursuant to the Utility Environmental Protection Act	)))))	Docket No. 09-_____

APPLICATION OF NEXTLIGHT RENEWABLE POWER, LLC FOR PERMIT TO CONSTRUCT THE BOULDER CITY SOLAR FACILITY PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT

TABLE OF CONTENTS

LIST OF EXHIBITS

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

IN THE MATTER OF:

Application of NextLight Renewable Power, LLC For Permit to Construct the Boulder City Solar Facility Pursuant to the Utility Environmental Protection Act	)))))	Docket No. 09-_____

APPLICATION OF NEXTLIGHT RENEWABLE POWER, LLC FOR PERMIT TO CONSTRUCT THE BOULDER CITY SOLAR FACILITY PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT

I. INTRODUCTION

In accordance with NRS 704.870(2), NextLight Renewable Power, LLC ("NextLight") hereby files with the Public Utilities Commission of Nevada ("Commission") an Application ("Application") for a Permit to Construct the facility described below ("Project"), pursuant to the Utility Environmental Protection Act ("UEPA"), set forth in NRS 704.820 to 704.900, and NAC 703.423. NextLight provides the following information in support of the Application.

II. INFORMATION REGARDING THE APPLICANT

1. NextLight is a wholly owned subsidiary of Energy Capital Partners, a company incorporated under the laws of the State of Delaware.

2. NextLight was formed for the purpose of developing, owning and operating utility-scale solar generating facilities in the Western United States, including southern Nevada.

3. NextLight's principal place of business, mailing address and telephone number are: 353 Sacramento Street, Suite 2100, San Francisco, California 94111; (415) 935-2500.

4. All correspondence related to this Initial Application (copy of all pleadings, notices, orders and discovery requests) should be sent to the undersigned counsel and to the Director of Development for the Proposed Facility, whose names and addresses are as follows:

Michael A. Hatfield
Director of Project Development
NextLight Renewable Power, LLC
353 Sacramento Street, Suite 2100
San Francisco, CA 94111
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Dir: (415) 935-2510
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III. RESPONSES TO REQUIRED DISCLOSURES

The information required by NAC 703.421, and as applicable, NAC 703.423, is provided in the following sections, to the extent that such information is currently available.

DESCRIPTION OF LOCATION

1. A description of the location of the proposed utility facility as required by subsection 1 of NRS 703.870 including:

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

The Project consists of a 150-megawatt ("MW") solar photovoltaic ("PV") generating facility located on approximately 1,130 acres of land owned by the City of Boulder City ("City") and situated approximately 12 miles south of the intersection of U.S. Highways 93 and 95. *See* Figure 1 in Exhibit A. The Project includes a 230-kilovolt ("kV") transmission line "gen-tie" line that will interconnect the on-site substation to one or two nearby substations. The gen-tie line will consist of one or two 230 kV circuits constructed on steel poles. The Project has been proposed by NextLight in response to the City's request for proposals to develop a solar energy project in the City's Energy Zone. The Project is located to the west of U.S. Highway 95. A northwest-trending, graded road provides access from Eldorado Valley Drive to portions of the site north and south of Eldorado Valley Drive. *See* Figure 1 in Exhibit A and *see* A.L.T.A. Map, 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. (NAC 703.423(1)(b))

The Project will be located on the southeast quarter of Section 31, and the southwest quarter of Section 32, T24S, R63E, M.D.M. and portions of Section 5, and Section 8, T25S, R63E, M.D.M. *See* A.L.T.A. Map, Exhibit B.

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

Site plan drawings of the proposed Project are included on Figures 2 and 4 in Exhibit A. As shown on the drawing entitled "General Arrangement Conceptual Layout" (Figure 2 in Exhibit A) access to the PV sites both north and south of Eldorado Valley Drive will be provided. A paved access road will provide access to the operations and maintenance ("O&M") building and facility switchyard location. This will be a common drive off of Eldorado Valley Drive. The surface of all other interior roads (Figure 2 in Exhibit A) will consist of either native soil treated with dust palliatives or aggregate base rock. Paved parking will be provided at the O&M building. The transmission line route is shown on the drawing entitled "Transmission Line Route." *See* Figure 4 in Exhibit A.

DESCRIPTION OF THE PROPOSED FACILITY

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

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

The proposed Project consists of a 150 MW solar PV facility, on a 1,130-acre site, and a 2.5-mile long 230-kV "gen-tie" line. The gen-tie line will consist of either one or two 230 kV circuits constructed on steel poles that will interconnect the facility to the Nevada Solar One Substation, approximately 1 mile to the west and/or to Merchant Substation 1.5 miles to the west. The project will use commercially proven crystalline-silicon or thin film PV modules mounted either onto fixed tilt or single-axis tracker structures. PV modules (also

referred to as PV solar panels) convert sunlight directly into direct current ("DC") electricity via the photoelectric effect. Large arrays of PV modules will be arranged throughout the solar field, as shown in drawing entitled "General Arrangement Conceptual Layout." *See* Figure 2 in Exhibit A. The DC output of multiple rows of PV modules will be collected through one or more combiner boxes and directed to an inverter. The inverter will convert the DC power to alternating current, which will flow to a medium-voltage transformer where it will be stepped up to collection system voltage (34.5 kV). Multiple medium-voltage transformers will be connected in parallel in a daisy chain configuration to the Project substation, where one or more transformers will step the power up from 34.5 kV to 230 kV for interconnection to the electric power system at one or both of the nearby substations mentioned above. The location of the solar arrays, substation locations, O&M building, power lines, and site topography are shown on Figures 2 and 4 in Exhibit A.

The foundations for the PV modules will consist of: (1) concrete ballasts approximately ten feet long, two feet wide, and 1.5 feet high; or (2) concrete or steel piles 4.5 to 12 inches in diameter driven up to 15 feet deep; or (3) or other foundations. The gen-tie line will be supported on steel poles approximately 120 feet in height spaced approximately 800 feet apart. Each pole will be supported by 20- to 30-foot deep, cast-in-place foundations.

An existing 14-inch diameter water line, which supplies City water, is located west of the site. *See* Figure 2 in Exhibit A. A proposed 8-inch diameter water line will be connected to the City water line to provide potable water to the O&M building and supply fire hydrants at the O&M building and switchyard location. The O&M building will be a single-story, pre-engineered building with an area of approximately 12,000 square feet. The Project substation will be located on a 350 x350 feet site in plan dimension on the south side of Eldorado Valley Drive.

The major equipment of the Project includes the following:

(1) Commercially proven PV modules;

(2) Solar trackers (if selected for use);

(3) DC to AC inverters, rated between 500 kW and 3,000 kW;

(4) Three-phase, pad-mounted, medium voltage transformers; and

(5) 34.5/230 kV step-up transformers.

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

No significant impacts to natural resources are anticipated from construction or operation of the Project.

Natural resources anticipated for construction and operation include:

- Steel for PV modules, transmission poles, fencing, and foundations;
- Silicon, cadmium, tellurium, copper, and other metals;
- Cement and aggregate for concrete for foundations and aggregate for on-site roadways;
- Water for dust suppression and concrete fabrication during construction for domestic use, panel washing, and fire protection during operations will be supplied by the Boulder City Water Utility; and
- Asphalt concrete for access road and parking at O&M and switchyard.

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

See Figure 2 in Exhibit A (General Arrangement Conceptual Layout) and Figure 4 in Exhibit A (Transmission Line Route) for layout diagrams of the structures at the proposed Project.

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

See Figure 6 in Exhibit A (O&M Building Conceptual Elevation) for scaled diagrams of the solar tracker panels, O&M building, and 8-foot high chain-link perimeter fence. The Project substation area will be approximately 350 x 350 feet, and the tallest structures within the substation will be approximately 60

feet in height. The substation with one or more transformers will be located on the western edge of the Project site. The substation will connect the Project to the Nevada Solar One Substation and/or the Merchant Substation.

SUMMARY OF ENVIRONMENTAL IMPACT STUDIES

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

Environmental studies conducted at the Project site include:

- Environmental Statement, NextLight Boulder City Solar Project, prepared by Ninyo & Moore, dated November 2009 (Exhibit A).
- Environmental Permitting Plan for the NextLight Boulder City Solar Project, prepared by NewFields, dated November, 2009 (Exhibit A, Appendix A).
- Biological Evaluation, NextLight Boulder City Solar Project, Clark County, Nevada, prepared by NewFields, dated November, 2009 (Exhibit A, Appendix B).
- Cultural Resources Overview and Archaeological Investigations for the NextLight Boulder City Solar Project, Clark County, Nevada, prepared by NewFields, dated November, 2009 (Exhibit A, Appendix C).
- Phase I Environmental Site Assessment for the NextLight Boulder City Project Site, Clark County, Nevada, prepared by URS Corporation, dated March 31, 2009 (Exhibit A, Appendix D).

Summary of Environmental Impact Studies

The Project will be constructed in an area designated by the City as the "Energy Zone." Provided that recommended mitigation measures are implemented during the construction and operations of this Project, the Project will have no significant impact on the natural environment and no significant effects on the human environment. Environmental studies indicate that levels of fugitive dust and noise will be acceptable if mitigated appropriately. Dust suppression will be maintained during Project operations. The Biological Evaluation indicates that the Project site has low desert tortoise population densities of 10 to 45 animals per square mile. Under the terms of a Multiple

Species Habitat Conservation Plan, the U.S. Fish and Wildlife Service has determined that loss of tortoise habitat within Clark County is acceptable provided that the project proponents pays a per-acre fee used to set aside and protect lands to ensure the tortoise survival as a species in perpetuity. In addition to paying a $550 per acre fee, NextLight proposes to implement additional, voluntary desert tortoise protection measures. The development of the Project will also result in the loss of habitat for migratory birds. The Project will be constructed in accordance with the Migratory Bird Treaty Act of 1918 and subsequent amendments. No archaeological sites were identified at the Project site. A portion of an historic road is located on the Project site. NextLight plans to conduct additional research and develop a plan of investigation and recovery of artifacts associated with the historic road prior to Project development. The Project is anticipated to generate approximately 230 to 300 jobs during the construction phase and require 9 to 15 full-time equivalent positions for operations and maintenance.

DESCRIPTION OF ALTERNATE LOCATIONS

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

Facility Location Criteria

NextLight took the following criteria into account in its consideration and evaluation of possible project sites: (1) adequate solar radiation; (2) proximity to a high capacity 230 kV substation with access to multiple energy markets; (3) adequate existing transmission capacity to convey the electrical output of a utility-scale generating facility to the ultimate buyer without requiring downstream upgrades to the transmission grid; (4) minimal environmental concerns to allow expedited permitting; (5) relatively flat topography to minimize the need for site grading; (6) existing ingress from paved roads; (7) lack of nearby sensitive receptors or incompatible land uses; (8) land parcel large enough to accommodate a utility-scale solar facility; and (9) access to nearby workforce sufficient to support project construction.

The proposed site is located within the City's Eldorado Valley Energy Zone, which meets all of NextLight's objectives. The City has established a zoning category of Energy Resource Zone ("ERZ") in which land may be used for the development of private and/or public solar and gas-fired "electric generation facilities, electrical transmission and distribution facilities, ancillary facilities, and other similar uses" as permitted uses. The Eldorado Valley Energy Zone is a 3,000 acre area specifically designated for the use contemplated by the Project.

The remote location of the ERZ minimizes the effects of noise, traffic and visibility associated with the Project on the local population. The ERZ, although within the City's jurisdiction, is located approximately 15 miles from the outskirts of the City. Two utility-scale solar generating facilities are already in commercial operation within the ERZ, and Boulder City Solar will occupy the remaining acreage reserved for solar development. Environmental pre-permitting of the ERZ by the City allows the project to proceed based on the issuance of a building permit by the City. Species mitigation is accomplished through payment of an established fee paid to the City.

The project site is located less than five miles from several electrical substations including the El Dorado, Marketplace, McCullough, Merchant, and Nevada Solar One substations. These substations can provide the project with access to multiple energy markets including direct interconnection to Nevada Energy, the California Independent System Operator, and municipal systems.

Due to the expedited permitting process for the Eldorado Valley Energy Zone, the Boulder City Solar site allows for early construction and operation of the facility, thereby providing an attractive energy supply to potential power purchasers that are operating under State mandates to increase near term deliveries of renewable power.

Because the area in and around the Eldorado Valley Energy Zone best meets all of the project objectives, the alternative sites considered were located in this vicinity. Two other sites were considered as potentially viable alternatives, but eliminated upon further consideration.

One of the sites was the dry lake bed, a few miles north of the proposed site. This site was proposed by the City as a potential location for solar development; however, NextLight determined that development within the dry lake bed presented additional engineering costs and environmental issues.

Another, larger site also north of the proposed site was considered. This site presented the advantage of potentially allowing for development of a larger project that could improve the project economics, however, the site was in the process of being designated for solar development by the City and was not yet available for lease and thus not well positioned for early construction.

In addition, both alternative sites would have required longer transmission interconnection, and neither of the alternative sites have the potential to reduce the environmental or land use impacts of the Project. Consequently, the selected sites are best suited for the proposed utility facility.

PROOF OF PUBLIC NOTICE

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

See Exhibit D.

PROOF OF SUBMITTAL TO THE NEVADA STATE CLEARING HOUSE

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))

See Exhibit E.

PROBABLE EFFECT ON ENVIRONMENT

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

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

Provided that recommended mitigation measures are implemented during the construction and operations of this Project, there will be no significant impact

to the natural environment and no significant effects to the human environment as a result of this Project. The recommended mitigation and monitoring are described in the Environmental Statement, in Exhibit A, and are summarized the following Table 1.

Table 1
Summary of Mitigation and Monitoring

Impact	Mitigation
Geology and Soils	
Erosion from storm water runoff	Obtain permit for storm water discharges from construction activities.
Pollution from storm water runoff	Prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices ("BMPs").
Soil Erosion	Conduct a geotechnical investigation and provide recommendations for site grading, placement of fill, foundations for structures, seismic design, protection of concrete and metal from potential corrosion and reactivity, roadway construction, utility trenches, and mitigation of surface erosion.
Groundwater and Surface Water Hydrology	
Erosion and Sedimentation	Prepare and implement a SWPPP in accordance with the Clark County Department of Air Quality and Environmental Management and the Nevada Division of Environmental Protection
	Implement BMPs such as locating waste and excess excavated material outside drainages to avoid sedimentation
	Install silt fences, temporary earthen berms, temporary water bars, sediment traps, stone check dams, or other equivalent measures (including installing erosion control measures around the perimeter of stockpiled fill material) as necessary.
	Maintain appropriate BMPs during facility operations.
Air Quality	
Localized, short-term increases in fugitive dust (PM_{10} emissions)	Obtain a Dust Control Permit from the Department of Air Quality and Environmental Management (DAQEM)
	Prepare a Dust Control Management Plan providing for watering the disturbed soil areas and unpaved roads during construction; applying dust pallatives during routine operations, applying soil stabilizers or crushed aggregate for wind erosion control; installing a construction entrance with track-out control devices; and stabilizing disturbed land surfaces with pavement or revegetation directly after construction is completed in each area.

Impact	Mitigation
Biological Resources	
Impacts to Desert Tortoise	Tortoise fence construction and monitoring.
	Tortoise clearance surveys and relocation.
	Desert tortoise protection education for construction workers.
	Habitat compensation.
	Speed Limits and signage.
	Trash and litter control.
Impacts to Burrowing Owls and other Migratory Bird Species	In conjunction with desert tortoise removal, burrowing owls would be flushed from occupied burrows and dens collapsed or blocked.
	Prior to vegetation removal, ideally scheduled outside of the nesting-bird season, which extends from February 15 to August 31; a qualified biologist will conduct a nesting bird survey to identify any potential nesting activity prior to proposed construction activities.
	If the survey finds passerine birds (i.e. small, perching birds) to be nesting, or there is evidence of nesting behavior within 250 feet of the impact area, a 250-foot buffer will be provided around nest. For raptor species, the buffer would be 500 feet.
Cultural Resources	
Destruction of a historic site that is potentially eligible for listing on the National Register of Historic Places	Field inventory, data collection, recordation, and artifact collection of historic materials associated with the historic site
Transportation	
Turning movement effects on traffic during construction	A traffic control plan would be prepared in coordination with Nevada Department of Transportation and the City
	Temporary traffic controls to minimize the potential for construction activities to result in traffic disruptions.
	Signs and/or flagmen to alert drivers of approaching lane closures and/or construction activities, and to safely maintain potential alternate one-way traffic flow, as needed.
Soundscape	
Construction Noise	Workers will wear hearing protection in accordance with Occupational Safety and Health Administration (OSHA) regulations.
Waste Management and Hazardous Materials	
Generation of solid waste and hazardous materials	Prepare and implement a solid and hazardous waste management plan including stipulations and procedures regarding compliance with federal, state, and local regulations for waste minimization, storage, and disposal.

(b) **An environmental statement that includes:**

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

Solar Development Company

Roy Skinner
Manager, Siting and Permitting
NextLight Renewable Power LLC
353 Sacramento Street, Suite 2100
San Francisco, California 94111
Phone: (415) 935-2500

Environmental Consultants

Albert Ridley, PG, CEM
Principal Geologist
Ninyo & Moore Geotechnical and Environmental Consultants
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Kenneth MacDonald
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8250 West Charleston Boulevard, Suite 100
Las Vegas, Nevada 89117
Phone: (702) 952-2072

(2) **The name, qualifications, professions, and contact information of each person who has provided comments or input in the preparation of the environmental statement; (NAC 703.723(7)(b)(2))**

Environmental Consultants

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Legal Counsel

Linda Bullen, Esq.
Lionel Sawyer & Collins
300 South 4th Street, Suite 1700
Las Vegas, Nevada 89101
Phone: (702) 383-8970

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

- Environmental Statement, NextLight Boulder City Solar Project, prepared by Ninyo & Moore, dated November, 2009 (Exhibit A).

- Environmental Permitting Plan for the NextLight Boulder City Solar Project, prepared by NewFields, dated November, 2009 (Exhibit A, Appendix A).
- Biological Evaluation, NextLight Boulder City Solar Project, Clark County, Nevada, prepared by NewFields, dated November, 2009 (Exhibit A, Appendix B).
- Cultural Resources Overview and Archaeological Investigations for the NextLight Boulder City Solar Project, Clark County, Nevada, prepared by NewFields, dated November, 2009 (Exhibit A, Appendix C).
- Phase I Environmental Site Assessment for the NextLight Boulder City Project Site, Clark County, Nevada, prepared by URS Corporation, dated March 31, 2009 (Exhibit A, Appendix D).

(4) A description of: (NAC 703.723(7)(b)(4))

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

The site is located on property owned by the City in an area designated as the "Energy Zone" intended for development of solar power facilities. The Project area consists of undeveloped desert land in Eldorado Valley with three main desert vegetative communities -- Mojave creosote, bush scrub, and Mojave wash scrub. However portions of the Project site have been previously disturbed by construction of the nearby Nevada Solar One power project, construction of existing electrical transmission lines construction within the Southwest Gas easement and construction of the historic Highway 5 ("Searchlight Road"). A biological evaluation of the Project indicates there is a low density of desert tortoise (a federally listed endangered species) and there is evidence of burrowing owl (a migratory bird). The Cultural

Resources Overview and Archaeological Investigations (Exhibit A, Appendix C) revealed no archaeological sites within the Project.

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

The environmental impacts of the construction and operation of the Project will include: loss of habitat for the population of desert tortoise on the Project site; loss of habitat for nesting migratory birds including the burrowing owl; increased potential for soil erosion from storm runoff; temporary increased noise during construction; and temporary increase in fugitive dust emission during construction; temporary increase in traffic during construction. Grading during the construction of the Project will impact the cultural history of the Searchlight Road which crosses the Project site. Operations will result in permanently disturbed soils on the site.

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

Provided that recommended mitigation measures are implemented during the construction and operations of this Project it is concluded that there will be no significant impact to the natural environment and no significant effects to the human environment as a result of this Project.

Environmental studies indicate that fugitive dust and noise will be temporary during construction only, and will be mitigated appropriately. Dust suppression will be maintained during Project operations. The Biological Evaluation indicates that the Project site has low desert tortoise population densities of 10 to 45 animals

per square mile. Under the terms of a Multiple Species Habitat Conservation Plan, the U.S. Fish and Wildlife Service has determined that loss of tortoise habitat within Clark County is acceptable through a mitigation plan where the project proponents pay a per-acre fee where the funds are used to set aside and protect lands to ensure the tortoise survival as a species in perpetuity. In addition to paying a $550 per acre fee NextLight proposes to implement additional, voluntary desert tortoise protection measures. The development of the Project will also result in the loss of habitat for migratory birds. The Project will be constructed in accordance with the Migratory Bird Treaty Act of 1918 and subsequent amendments. No archaeological sites were identified at the Project site. A portion of a historic road is located on the Project site. NextLight plans to conduct additional research and develop a plan of investigation and recovery of artifacts associated with the historic road prior to Project development. The Project is anticipated to generate approximately 230 to 300 jobs during the peak construction phase and require 9 to 15 full-time equivalent positions for operations and maintenance.

NEED TO ENSURE RELIABLE SERVICE

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

(a) If the proposed utility facility was approved in a resource plan or an amendment to a resource plan, a reference to the previous approval by the Commission; (NAC 703.423(8)(a)) or

Not applicable.

(b) If the proposed utility facility was not approved in a resource plan or an amendment to a resource plan, a reference to the previous approval by the Commission; (NAC 703.423(8)(b))

(1) Provide utility service to customers in this state; (NAC 703.423(8)(b)(1))

The Project offers the following benefits to customers of the State of Nevada. The proposed solar facility is expected to generate electrical energy and reduce the emissions of carbon dioxide (CO_2), a greenhouse gas, by displacing the use of electrical energy from natural gas and coal burning power plants.

(2) Enhance the reliability of utility service in this state; (NAC 703.423(8)(b)(2)) and

The Project will assist the State of Nevada in developing renewable resources of energy and displacing older conventional power generation. The Project is designed to meet the increasing demand for clean, renewable electrical power. Nevada has enacted a Renewable Portfolio Standard ("RPS") as part of its 1997 restructuring legislation. This standard required Nevada's electric utilities to generate or acquire a minimum of 5 percent of electricity sold to retail customers from renewable energy systems in 2003 and 2004, and increasing the standard by 2 percent biennially to 15 percent by 2013. Construction and operation of the project will contribute achieving Nevada's RPS goals as well as providing jobs to the local community.

(3) Achieve interstate benefits by the proposed construction or modification of transmission facility in this state, if applicable (NAC 703.423(8)(b)(3)).

The Project will be connected to transmission facilities which will contribute much needed on-peak power to the electrical grid that serves the western United States.

NEED VERSUS ENVIRONMENTAL EFFECT

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

As stated in subsection 7, provided that the recommended mitigation measures are implemented, the Project will result in no significant impact to the natural environment and no significant effect to the human environment.

The Project is designed to meet the increasing demand for clean, renewable electrical power. The United States has a greater solar energy resource potential than any other industrialized nation. The multiple benefits associated with developing this resource have been recognized repeatedly by both federal and state policy-makers. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, contributes to the reduction of greenhouse gas emissions, and generates "green" jobs.

MINIMUM ADVERSE IMPACT ON THE ENVIRONMENT

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

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

The Boulder City Solar Project is designed to utilize crystalline silicon or thin film PV technology mounted on tracker or fixed tilt units. Other solar technologies considered by NextLight for the Project included concentrating PV and solar thermal technologies.

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

The high water demand of solar thermal technology is not compatible with the limited water availability and competing water uses in the southern Nevada region. Crystalline silicon and thin film are proven technologies, which is a necessary component in obtaining project financing. Neither concentrating PV nor solar thermal technologies provide this benefit.

NextLight decided that the proposed project design using crystalline silicon or thin film PV on tracking or fixed tilt units is the preferred technology for this site given the low water requirements, minimal site preparation, and grading requirements for PV panel installation, proven technology and reliability, and cost.

Additionally, none of the alternative technologies mentioned above are considered to be capable of reducing the potential environmental impacts associated with the proposed action. Concentrating solar would have a larger visual impact and solar thermal would increase surface disturbance and water use. Therefore, other alternative solar technologies were eliminated from further consideration.

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

The Project site was selected over one other site at the dry lake bed, a few miles to the north of the Project site because development in the dry lake bed presented additional engineering costs and environmental issues, and over a second site north of the Project site, because the site was in the process of being designated for solar development by the City and was not yet available for lease and thus not well positioned for early construction. In addition, the ROW for the new transmission line would parallel existing transmission lines and would be readily available. The selected alignment was also preferred by the City. Selection of the Project site within the Energy Zone would allow for an expedited permitting process to allow the project to start construction in 2010 and therefore be eligible for the U.S. Department of Energy's tax equity grant and loan guarantee programs.

The Boulder City Solar Project is designed to utilize crystalline silicon or thin film PV technology mounted on tracker or fixed tilt units. Other solar technologies considered by NextLight for the project included concentrating PV and solar thermal technologies.

Crystalline silicon and thin film are proven technologies, which is a necessary component in obtaining project financing. NextLight determined that the proposed project design using crystalline silicon or thin film PV on tracking or fixed tilt units is the preferred technology for this site given the low water requirements, minimal site preparation, and grading requirements for PV panel installation, proven technology and reliability, and cost.

AGENCY APPROVAL LIST AND DESCRIPTION OF REQUIRED PERMITS

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

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

NextLight, through its subsidiary Boulder City Solar, LLC, has entered into a 40-year lease agreement with the City for the Project site. *See* Exhibit C.

(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 timelines for obtaining these permits, licenses, and approvals. (NAC 703.423(11)(b))

Permits, licenses, and approvals needed for the Project are listed in Table 2 below:

Table 2 Permits Licenses and Approvals

Permit/Approval Required	Approving Agency	Estimated Time Required to Obtain Permit/Approval
Utility Environmental Protection Act - Permit to Construct	Nevada Public Utilities Commission 1150 East William Street Carson City, Nevada 89701-3109 Phone 775-684-6171 Fax 775-684-6110	150 days
Building Permit	City of Boulder City Building Department 401 California Avenue Boulder City, Nevada 89005-2600 (702) 293-9282	30 days

Permit/Approval Required	Approving Agency	Estimated Time Required to Obtain Permit/Approval
Nevada Division of Wildlife Scientific Collection Permit	Nevada Division of Wildlife 4600 Kietzke Lane, D 135 Reno, Nevada 89502 Phone 775-688-1512 Fax 775-688-1509	45 days
National Pollutant Discharge and Elimination System General Stormwater Permit for construction Activities	Nevada Division of Environmental Protection Stormwater Coordinator Bureau of Water Pollution Control 901 South Stewart Street, Suite 4001 Carson City, Nevada 89701-5249 Phone 775-687-9429 Fax 775-687-5856	2 weeks
Nevada Department of Transportation Right-of-Way Encroachment Permit	Nevada Department of Transportation District I, P.O. Box 170 123 E. Washington Avenue Las Vegas, Nevada 89125 Phone 702-385-6509	60 days
Traffic Barricade Plan	Nevada Department of Transportation District I, P.O. Box 170 123 E. Washington Avenue Las Vegas, Nevada 89125 Phone 702-385-6509	30 days
Hazardous Materials Permit/ Roving Permit	Nevada Department of Motor Vehicles and Public Safety Nevada State Fire Marshall Division 107 Jacobsen Way-Stewart Facility Carson City, Nevada 89711 Phone 775-687-4290 Fax 775-687-5122	2 weeks
Dust Control Permit	Clark County Department of Air Quality and Environmental Management 500 S. Grand Central Parkway Las Vegas, Nevada 89155-1776 Phone 702-455-5942 Fax 702-383-9994	7 days

SERVING THE PUBLIC INTEREST

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

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

The economic benefits of the proposed Project include approximately 230 to 300 jobs at the peak of construction and 9 to 15 full-time equivalent positions

for operations and maintenance of the facility. In addition the City will receive substantial revenues in the form of lease payments. The people of the State of Nevada will benefit from increased sustainable electrical energy.

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

The people of the State of Nevada will benefit from improved air quality due to a reduction in greenhouse gas emissions by displacement of electrical energy produced by natural gas and coal-burning power plants, increased reliability, and sustainability of electrical energy.

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

The people of the State of Nevada will benefit from improved air quality due to a reduction in greenhouse gas emissions by displacement of electrical energy produced by natural gas and coal-burning power plants, increased reliability, and sustainability of electrical energy. In addition, the residents of the state will benefit from the creation of approximately 230 to 300 jobs during the peak of construction and 9 to 15 full-time equivalent positions during the operational life of the facility. In addition, solar energy is a sustainable, renewable form of energy not subject to fluctuation in the cost of the fuel source, as are fossil-based fuels.

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

The Project will be connected to the electrical grid which will contribute much needed on-peak power to the electrical grid that serves the Western United States.

IV. CONCLUSION AND REQUEST FOR RELIEF

Based on this Application NextLight respectfully requests that the Commission proceed in the manner required by law and, in accordance with NAC 703.535(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 NextLight 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 NextLight such other and further relief as the Commission may find reasonable and appropriate under the circumstances.

RESPECTFULLY SUBMITTED this 22nd day of December, 2009,

NEXTLIGHT RENEWABLE POWER, LLC

By: Linda Bullen

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Lionel Sawyer & Collins
lbullen@lionelsawyer.com
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Tel: (702) 383-8970
Fax: (702) 383-8845

Attorneys for NextLight Renewable Power, LLC

EXHIBIT A

ENVIRONMENTAL STATEMENT

EXHIBIT B

A.L.T.A. MAP

EXHIBIT C

LEASE BETWEEN BOULDER CITY SOLAR, LLC AND CITY OF BOULDER CITY

EXHIBIT D

PUBLIC NOTICE AND AFFIDAVIT OF PUBLICATION

EXHIBIT E

PROOF OF SERVICE TO NEVADA CLEARINGHOUSE, CLARK COUNTY CLERK AND OTHER AGENCIES

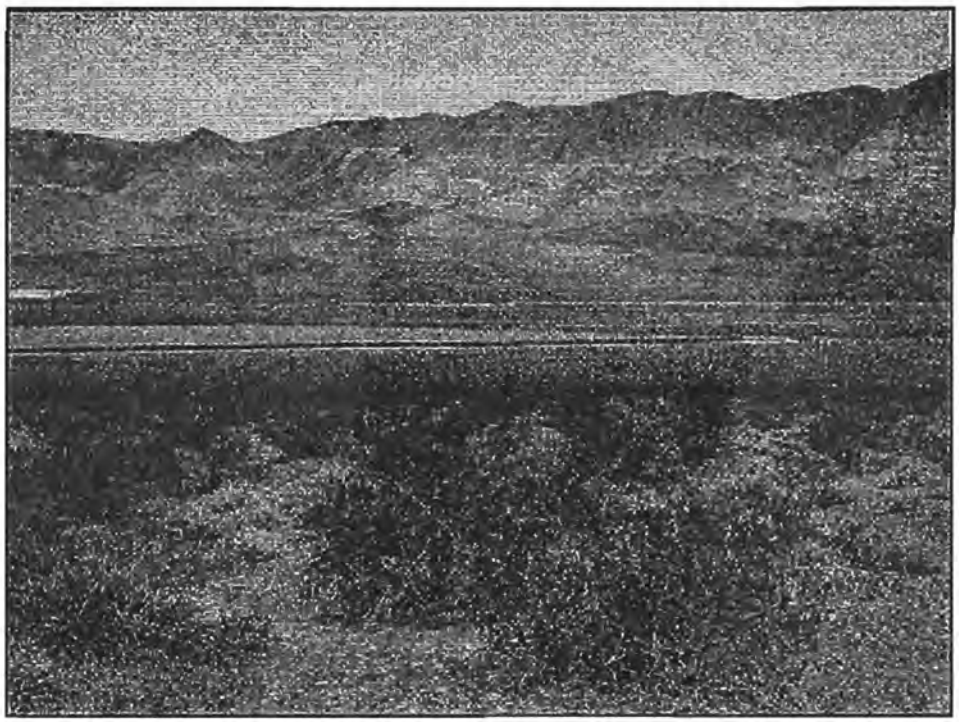
EXHIBIT A

ENVIRONMENTAL STATEMENT

ENVIRONMENTAL STATEMENT

NEXTLIGHT BOULDER CITY SOLAR PROJECT

CLARK COUNTY, NEVADA



Prepared for:

NextLight Renewable Power, LLC

Prepared by:

Ninyo & Moore

6700 Paradise Road, Suite E,
Las Vegas, Nevada 89119

NEWFIELDS

8250 West Charleston Boulevard
Suite 100, Las Vegas, NV 89117

December 2009

December 14, 2009
Project No. 302931002

Mr. Roy Skinner
NextLight Renewable Power, LLC
353 Sacramento Street, Suite 2100
San Francisco, California 94111

Subject: Environmental Statement
NextLight Boulder City Solar Project
Boulder City, Nevada

Dear Mr. Skinner:

In accordance with your authorization, Ninyo & Moore and NewFields has prepared an Environmental Statement for the above-referenced site. The attached report is intended to provide site environmental information in support of the Utility Environmental Protection Act Application for Permit to Construct to be submitted to the Nevada Public Utilities Commission. We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE

Albert Ridley, PG, C.E.M.
Ninyo & Moore Principal Geologist

Kenneth MacDonald
NewFields Partner-Senior
Environmental Manager

APR/KM/ltk

Distribution: (2) Addressee
(1) Linda Bullen, Esq.

TABLE OF CONTENTS

Tables

Figures

Appendices

1. INTRODUCTION

The Boulder City Solar Project (Project) consists of a 150-megawatt (MW) alternating current (AC) solar photovoltaic (PV) facility located on 1,130 acres of land located in Boulder City, Clark County, Nevada. The Project can be accessed from State Highway 95 to Eldorado Valley Drive. The Project includes a 230-kilovolt (kV) transmission "gen-tie" transmission line. The gen-tie will consist of up to two 230 kV circuits constructed on steel poles that will interconnect the facility to one or more of two nearby substations; Nevada Solar One, approximately 1 mile to the west, and Merchant Substation, 1.5 miles to the west. The Project is currently planned to begin construction in the fourth quarter of 2010 and to be completed by the second quarter of 2012.

1.1. Project Purpose and Need

The Project has been proposed by NextLight Renewable Power, LLC (NextLight) in response to Boulder City's ("City") request for proposals to develop solar energy project in the City's Eldorado Valley Energy Zone.

The Project is designed to meet the increasing demand for clean, renewable electrical power. The United States has a greater solar energy resource potential than any other industrialized nation. The multiple benefits associated with developing this resource have been recognized repeatedly by both federal and state policy-makers. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, contributes to the reduction of greenhouse gas emissions, and generates "green" jobs.

1.2. Authorizing Actions

The primary approval required for this project would be issued by the Public Utility Commission of Nevada (PUCN). The PUCN will review the project in accordance with Utility Environmental Protection Act (UEPA) guidelines. Should the project be approved, the PUCN would issue a Permit to Construct.

An evaluation of the potential suite of required environmental and regulatory approvals was completed. It was determined these are typical and well understood for projects of this nature in southern Nevada. Details about the permits are described in the Permit Plan, which is included as Appendix A.

Table 1.1 lists relevant federal, state, and local regulatory permits and approvals that may be required.

Table 1-1. Regulatory Permits and Approvals that May Be Required

Level of Government	Permit/Approval
Federal	
U.S. Fish and Wildlife Service	Endangered Species Act - Section 10 Compliance
	Migratory Bird Treaty Act Compliance
State of Nevada	
Nevada Public Utility Commission	Utility Environmental Protection Act Application and Permit to Construct
Nevada Department of Transportation	Hazardous Material Permit or Roving Permit
	Traffic Management Plan
	Right-of-Way Encroachment Permit
	Traffic Barricade Plan Approval
Nevada Division of Wildlife	Scientific Collection Permit
Nevada Division of Environmental Protection	National Pollutant Discharge and Elimination System General Stormwater Permit for construction Activities
Clark County	
Department of Air Quality and Environmental Management	Dust Control Permit
	Multiple Species Habitat Conservation Plan Compliance
Utility and Other Coordination	
	ATT
	NV Energy
	Sprint
	Southwest Gas
Private Owner	Encroachment and Occupancy Approval from Private Owner

1.3. Environmental Statement Organization

To aid the reviewers and decision-makers, this section outlines the organization of the Environmental Statement.

1.0 Introduction - This provides a brief general description of the proposed project and its purpose and need. Also summarized is the project location, the federal, state, and local reviews, regulatory approvals, and permits likely to be required.

2.0 Description of Proposed Action and Alternatives -This Chapter describes the proposed Project and the No Action Alternative. It also describes alternatives that were considered but eliminated from detailed consideration along with the rationale for their elimination.

3.0 Existing Setting, Environmental Consequences, and Mitigation Measures - This is the heart of the document and describes the existing environment at and near the site. It also details the potential environmental consequences of the proposed Project and mitigation measures designed to reduce, minimize, or avoid impacts such they are reduced to an acceptable level. Consequences of the No Action alternative are discussed. In addition, a table summarizing the potential effects, the recommended mitigation measures, along with the timing of those measures and identification of entities responsible for implementation and monitoring has been included.

4.0 List of Preparers - Lists persons who contributed to the preparation and review of this Environmental Statement.

5.0 List of Acronyms – Contains the abbreviations and acronyms contained in this document.

6.0 References - Lists references used in this Environmental Statement.

Appendices - Provide additional technical supporting information.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The sections below provide a comprehensive description of the Project, as follows:

- Section 2.1 provides a description of the Project location.
- Section 2.2 describes the Project facilities, including the major equipment and site arrangement, electrical systems, and plant auxiliary systems.
- Section 2.3 describes pre-construction activities, Project fabrication and construction activities, schedule, and sequencing; this section also provides a description of waste management, erosion control measures, and revegetation/restoration.

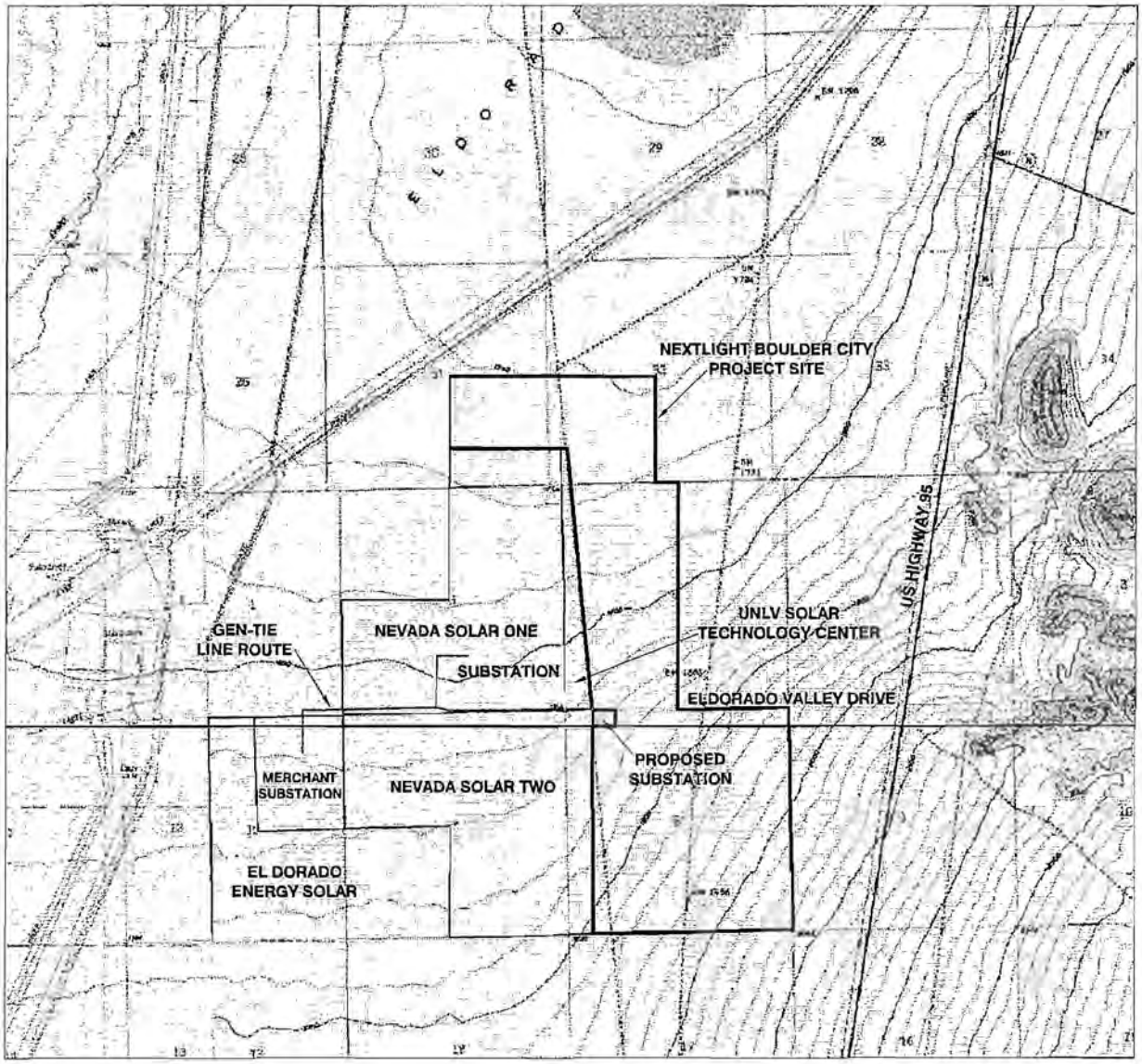
- Section 2.4 describes facility operations and maintenance (O&M), including waste management, health and safety, and site security.
- Section 2.5 describes the alternatives considered and the rationale for why they were eliminated from detailed consideration.

2.1. Project Location and Access

The Project is located in the Boulder City Eldorado Valley Energy Zone, approximately 12 miles south of the intersection of Highways 93 and 95 (Figure 1). Access to the project will be from State Highway 95 to Eldorado Valley Drive. Access from Eldorado Valley Drive to the PV sites both north and south of Eldorado Valley Drive will be provided. A paved access road will be installed that will provide access to the O & M building and the facility switchyard location. This will be a common drive off of Eldorado Valley Drive, with access to gates for both the O&M facility and the switchyard. This is the only proposed paved road on site. All other interior roads depicted on the "General Arrangement Conceptual Layout" drawing (Figure 2) will be either native soil treated with dust suppressants or surfaced with aggregate base rock. Additionally, a paved parking area will be provided at the O&M building to meet the Boulder City requirements. The Project site is located in an area with good solar radiation characteristics, relatively flat terrain, and proximity to existing electrical transmission facilities.

2.2. Project Facilities

The proposed Project consists of a 150-MW solar PV facility and a 230-kV gen-tie transmission line that will interconnect the facility to one or more of two nearby substations; Nevada Solar One Substation, approximately 1 mile to the west, and Merchant Substation, 1.5 miles to the west. The Project will utilize commercially proven crystalline-silicon or thin film PV modules mounted onto either fixed tilt or single-axis tracker structures. PV modules (also referred to as PV or solar panels) convert sunlight directly into direct current (DC) electricity via the photoelectric effect. Large arrays of PV modules will be arranged throughout the solar field.



LEGEND

- Project Site Boundary
- Existing and Proposed Tranmission Line Routes
- Property Lines

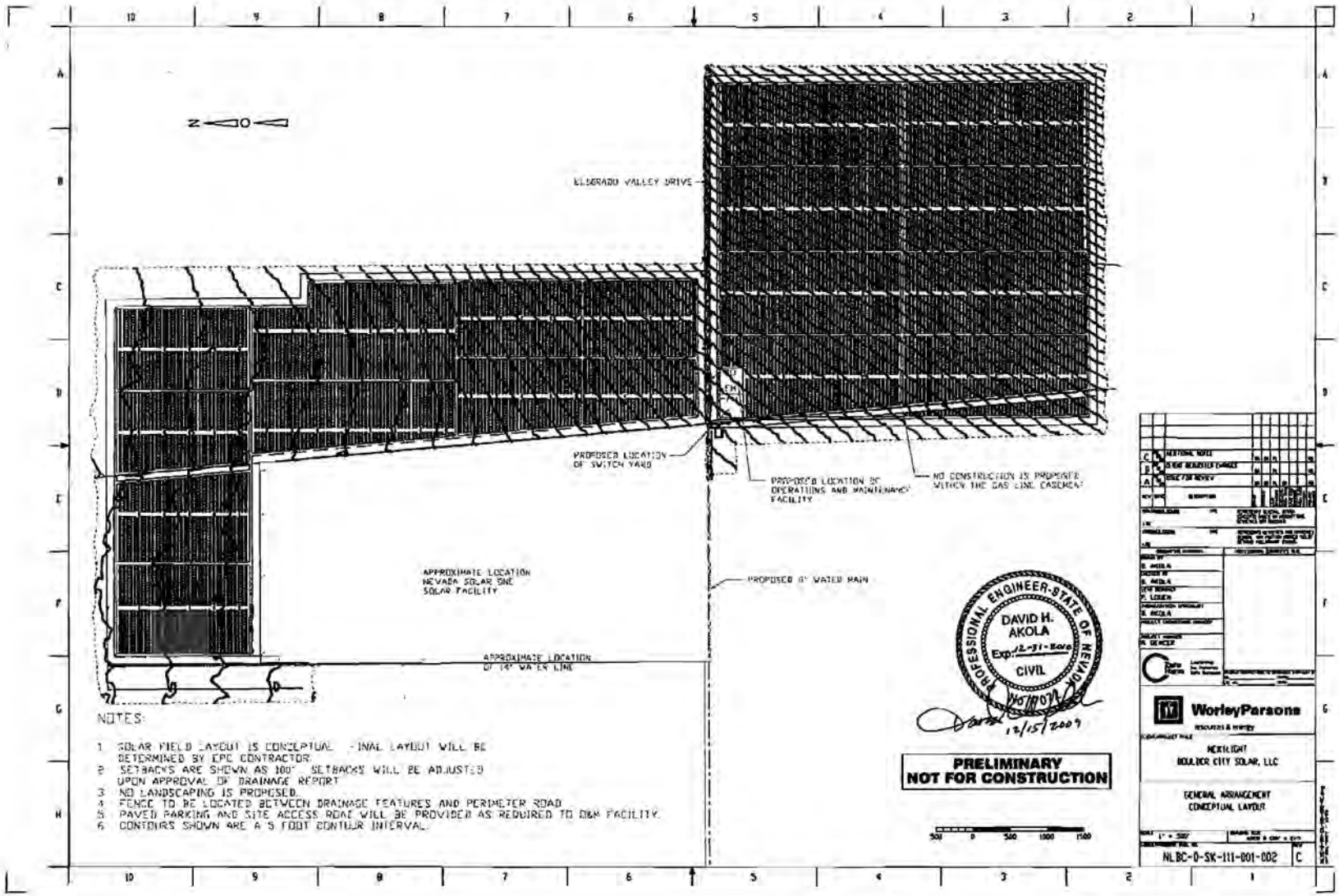
N

SCALE IN FEET

0 4000 8000

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE.
REFERENCE: USGS 7.5 MINUTE QUADRANGEL, BOULDER CITY SW AND SLOAN SE

Ninyo & Moore	PROJECT LOCATION	FIGURE
PROJECT NO. 302931002 / DATE 12/09	ENVIRONMENTAL STATEMENT NEXTLIGHT BOULDER CITY SOLAR PROJECT BOULDER CITY, NEVADA	1



Ninyo & Moore		GENERAL ARRANGEMENT CONCEPTUAL LAYOUT	FIGURE
PROJECT NO.	DATE	ENVIRONMENTAL STATEMENT NEXTLIGHT BOULDER CITY SOLAR PROJECT BOULDER CITY, NEVADA	2
302931002	12/09		

The PV modules are non-reflective and convert solar irradiance into DC electricity at a conversion efficiency ranging from approximately 7 to 19 percent, depending on the selected PV technology. The DC output of multiple rows of PV modules is collected through one or more combiner boxes and directed to an inverter. The inverter converts the DC power to AC power, which flows to a medium-voltage transformer where it is stepped up to collection system voltage (34.5 kV).

Multiple medium-voltage transformers are connected in parallel in a daisy chain configuration to the Project substation, where the power is stepped up to 230 kV and delivered to the electric power system.

The Project will have one or more meteorological monitoring stations to track solar insolation, temperature, wind direction and speed, and other parameters. The Project will have a Supervisory Control and Data Acquisition (SCADA) system that will allow for the remote monitoring and control of inverters and other Project components. The SCADA system will be able to monitor Project output and availability, and to run diagnostics on the equipment.

All of the electricity generated by the project is generated through the conversion of solar energy to electricity by PV technology. The Project will not consume fossil fuels of any type. The Project will require a minor amount (less than 1% of total output) of electric power from the grid during non-daylight hours to keep transformers energized at night, provide electrical service to the O&M building, and to realign the trackers (if used) to the east so that they are properly oriented toward the morning sun.

2.2.1. Major Equipment and Site Arrangement

The PV facility's major equipment includes the following:

- PV modules, including commercially-proven BP crystalline silicon modules, First Solar cadmium telluride thin film modules, Q-Cells crystalline silicon modules, Sharp amorphous silicon thin film modules, SunPower crystalline silicon modules, Suntech crystalline silicon modules, or similar equipment.
- If trackers are used, SunPower T0 or T20 trackers, Array Technology Wattsun solar trackers, RayTracker GC, or similar.

- DC to AC inverters, rated between 500 kW and 3,000 kW, as manufactured by Advanced Energy, SatCon, Siemens, Xantrex, or similar.
- Three phase pad-mounted medium voltage transformers, manufactured by ABB, GE, Cooper Power Systems, Siemens, or similar.
- Step-up Transformer, manufactured by ABB, GE, Siemens, Hyundai, Waukesha, or similar.

The present design calls for PV modules, inverters, and medium voltage transformers to be combined into 1 MW, or larger, blocks that are repeated to reach the full contract capacity. The inverter and transformer manufacturers and capacities will be selected based on cost, efficiency, reliability, and market availability of these units.

The proposed PV facility will only use commercially proven PV modules, inverters, and transformers. Although the largest PV power plant currently in operation in the United States is the approximately 25 MW Florida Power and Light De Soto facility, NextLight's proposed PV facility simply uses more PV modules, not larger PV modules.

For the fixed-tilt mounting structure alternative, the PV modules will be mounted onto steel frame structures facing south and arranged on an east-west axis, angled toward the sun. The angle of the tilt will be optimized during the design stage to optimize energy delivery and cost of energy. Additionally, the azimuth of the arrays may be slightly rotated to the southwest to maximize power generation during peak afternoon periods. Support columns of the structure will be driven or screwed (depending on design) into the ground to an adequate depth to provide structural support for the arrays of PV modules.

Two types of single-axis trackers are being considered at this time: horizontal trackers and tilted trackers. The horizontal trackers will be comprised of steel frame structures, arranged in rows on a north-south axis. The trackers are mounted on pre-cast or cast-in-place concrete ballasts, embedded foundations, or other suitable structures to support

the trackers. PV modules will be mounted atop the trackers, and actuators will rotate the structure and PV modules to track the east-west path of the sun throughout the day.

For the tilted single-axis trackers, the PV modules are mounted on a steel frame structure that is arranged to be south facing and tilted at nominally 20 degrees from horizontal. The specific tilt angle may be adjusted to optimize power generation. The tracking systems are arranged into east-west rows, rotating on a north-south axis and are powered by a drive motor to track the east-west path of the sun throughout the day. Each drive motor will be mounted on small concrete foundations, and can drive up to approximately 1,200 feet of trackers.

Fixed tilt panels are approximately 6 feet off the ground at the highest point. The highest point on the tilted tracker units (the uppermost solar panel) is about 12 to 15 feet above the ground surface. The highest point for a horizontal tracker is during the morning and evening hours and is approximately 8 feet above the ground surface.

The ballast foundations are approximately 10 feet long by 2 feet wide and 1.5 feet high. The embedded foundations are approximately 4.5 inches to 12 inches in diameter and up to 15 feet deep.

The concrete electrical equipment pads that support the inverters and other electrical equipment are approximately 15 feet by 60 feet; however, these dimensions will vary depending upon the number of inverters and other equipment per pad. The electrical equipment enclosures are approximately 12 feet high. The enclosures will be painted a light, non-reflective color to avoid reflection and glare.

The wiring from the solar panels delivers the DC power along an underground trench or aboveground conduit to the inverters located on the electrical equipment pads. The inverters convert the DC power to AC which is then stepped up to approximately 34.5-kV through a transformer. This power is delivered along an overhead collection system to the Project substation; the power is stepped up to 230 kV for interconnection to the electrical grid. The Project substation will be approximately 350 feet by 350 feet and the

highest point at the substation will be approximately 60 feet. Figure 3 below provides an example of the Generation Process:

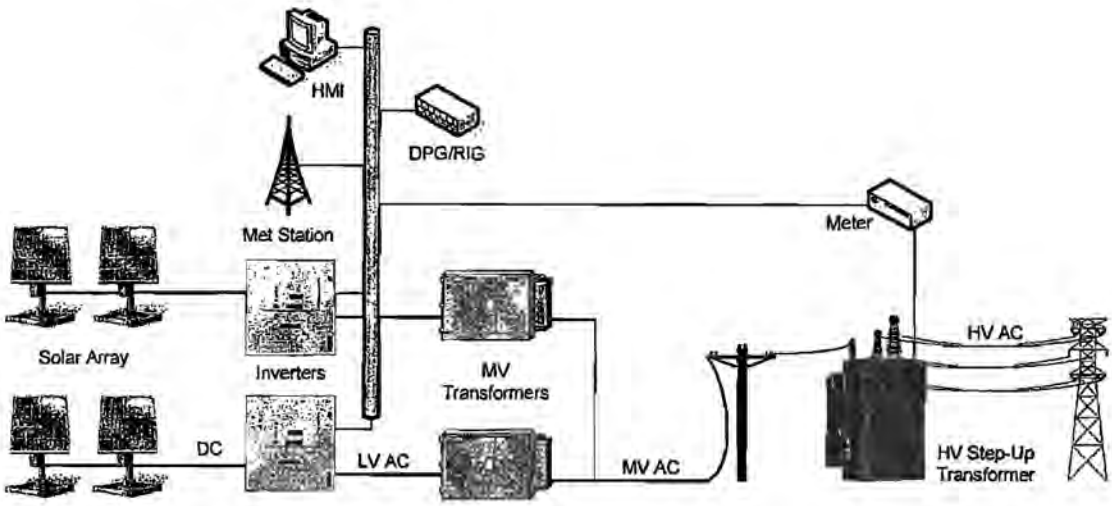


Figure 3. Block Diagram of the Generation Process

2.2.2. Electrical Systems

2.2.2.1. Transmission Interconnection

Power generated by the Project will be delivered via a gen-tie from the Project to the Nevada Solar One Substation, approximately 1 mile to the west of the Project, and/or to the Merchant Substation, 1.5 miles to the west of Project site. The inter-connection will require construction of a new 230-kV transmission line consisting of one or two 230-kV circuits on steel poles. The gen-tie will be located entirely within easements provided by the City. A map of the proposed transmission line route is shown on Figure 4.

LEGEND:

EXISTING TRANSMISSION ℄

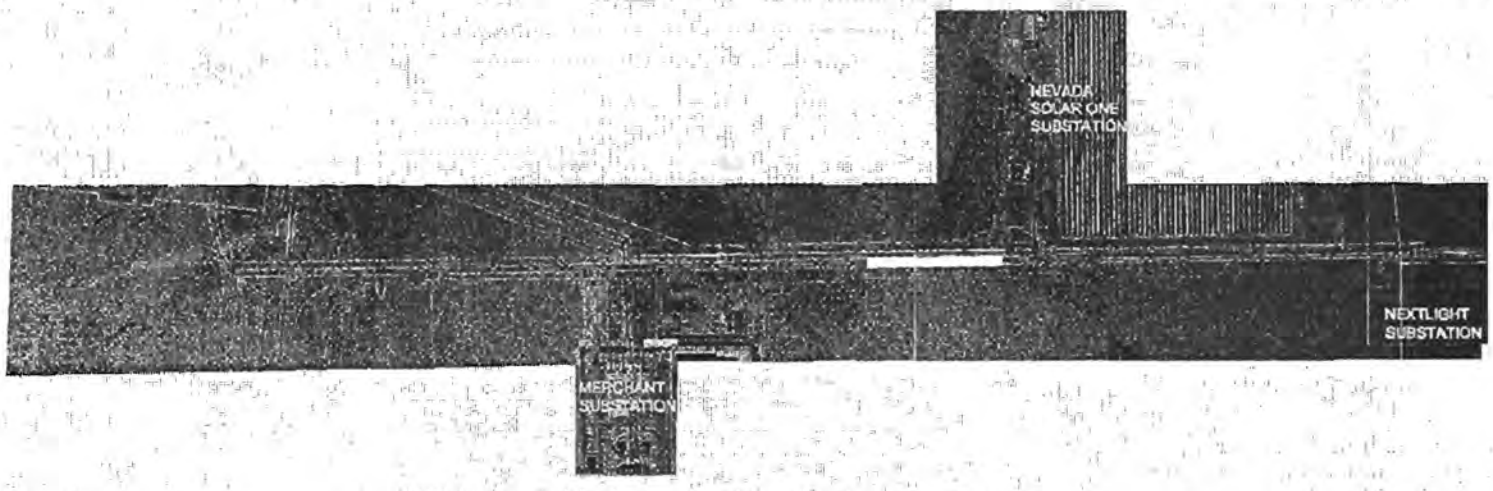
PROPOSED NEXTLIGHT GEN-TIE LINE ℄

EXISTING T-LINE STRUCTURE LOCATION (WOOD or STEEL)

EXISTING T-LINE STRUCTURE LOCATION (LATTICE TOWER)

PROPOSED T-LINE STRUCTURE

230-kV CIRCUIT LENGTH TO NEVADA SOLAR ONE SUBSTATION = 5488FT
230-kV CIRCUIT LENGTH TO MERCHANT SUBSTATION = 8354FT



PRELIMINARY

TriAxis Engineering, Inc.

DSGN				
DR				
CHK				
APVD				
NO.	DATE	REVISION	BY	APVD

REUSE OF DOCUMENTS

NEXTLIGHT RENEWABLE ENERGY, LLC

BOULDER CITY ENERGY ZONE PROJECT
230-kV ROUTE ALTERNATIVES
NEVADA SOLAR ONE SUBSTATION
MERCHANT SUBSTATION

SHEET 1
DWG Y3002-12
DATE DEC. 2009
PROJ NO. Y3002

Ninyo & Moore

PROJECT NO.	DATE
302931002	12/09

TRANSMISSION LINE ROUTE

ENVIRONMENTAL STATEMENT
NEXTLIGHT BOULDER CITY SOLAR PROJECT
BOULDER CITY, NEVADA

FIGURE
4

2.2.2.2. Electrical System for Plant Auxiliaries

During daylight hours, power for plant auxiliaries will be provided by the Project's electrical generation. During non-daylight hours, the Project will require small amounts of power for the O&M building, to keep transformers warm during non-daylight hours, to realign the trackers (if used) to the east at night so that they are properly oriented to catch the morning sun the following day, and for plant lighting and security. This power will be provided by either back feed from electrical grid or from a local electricity provider. Power from the distribution service will be stepped down to an appropriate voltage to support plant auxiliaries and will be connected to the station service power switchgear.

2.2.3. Plant Auxiliaries Process Description

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

2.2.3.1. Water

The City will supply the Project with its water requirements as provided under the terms of the lease. Approximately 200 acre-feet per year of water will be required during construction to support concrete manufacturing, dust control, panel washing, and sanitary use. Once the facility is fully operational, approximately 9 acre-feet per year of water will be required by the facility for domestic use, process water, and fire protection. Domestic use will include restrooms, kitchenette, showers, and other employee uses. Process water will be required for washing solar panels, and maintenance uses.

An existing 14-inch water line is located within Eldorado Valley Drive to the west of the site. It is planned that an extension of this water line will be constructed to the east within the right-of-way (ROW) for Eldorado Valley Drive. An 8-inch line to supply water to the Project will also be installed in the ROW. The water supply

line will provide process water for operation and maintenance, domestic water for the O&M building, and will supply a fire hydrant(s) at the O&M and switchyard location.

2.2.3.2. Water Treatment

Water will be sprayed on the PV panels periodically to remove dust and contaminants to maintain efficient conversion of sunlight to electrical power. The cleaning interval will be determined by the rate at which electrical output degrades between cleanings. Currently, it is expected that panel cleaning will be required about once or twice per year. Pending analysis of water quality, a water softener may be required to provide the necessary water quality for solar panel cleaning. Based on the City's water quality report, no water treatment is necessary to maintain the PV panels.

2.2.3.3. Plant Control System

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

All field instruments and controls will be hard-wired to local electrical panels. Local panels will be hard-wired to the plant PCS system. Wireless technology will be reviewed as a potential alternative during Project design.

2.2.3.4. Lighting System

The Project's lighting system will provide operation and maintenance personnel with illumination for both normal and emergency conditions. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be downward facing and shielded to focus illumination on the

desired areas only. There will be no lighting in the solar field, so light trespass on the surrounding properties will be minimal. If lighting at individual solar panels or other equipment is needed for night maintenance, portable lighting will be used.

2.2.3.5. Cathodic Protection Systems

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

2.2.3.6. Buildings

The O&M building will be a pre-engineered building with an area of approximately 12,000 square feet. It will be a single story building with a total height of approximately 25 feet. It will contain several offices, storage space, bathrooms, and a lunch break area. The roof will be a standing seam or rolled metal roof, or similar design. The walls and roof will be tan or similar neutral color, in order to blend into the desert surroundings. A typical building diagram and color chart is indicated on Figure 5 below. This figure indicates an Allied building product. While final selection of the building supplier has not occurred, this diagram is typical of the building proposal. Each metal building manufacturer has a variety of "standard colors," which will include several shades of light brown to tan. Once NextLight's engineering, procurement, and construction contractor has selected a building supplier, NextLight will select the building vendor's standard color that most closely matches the Project's surrounding environment. Figure 6 shows a conceptual elevation of the planned O&M building.

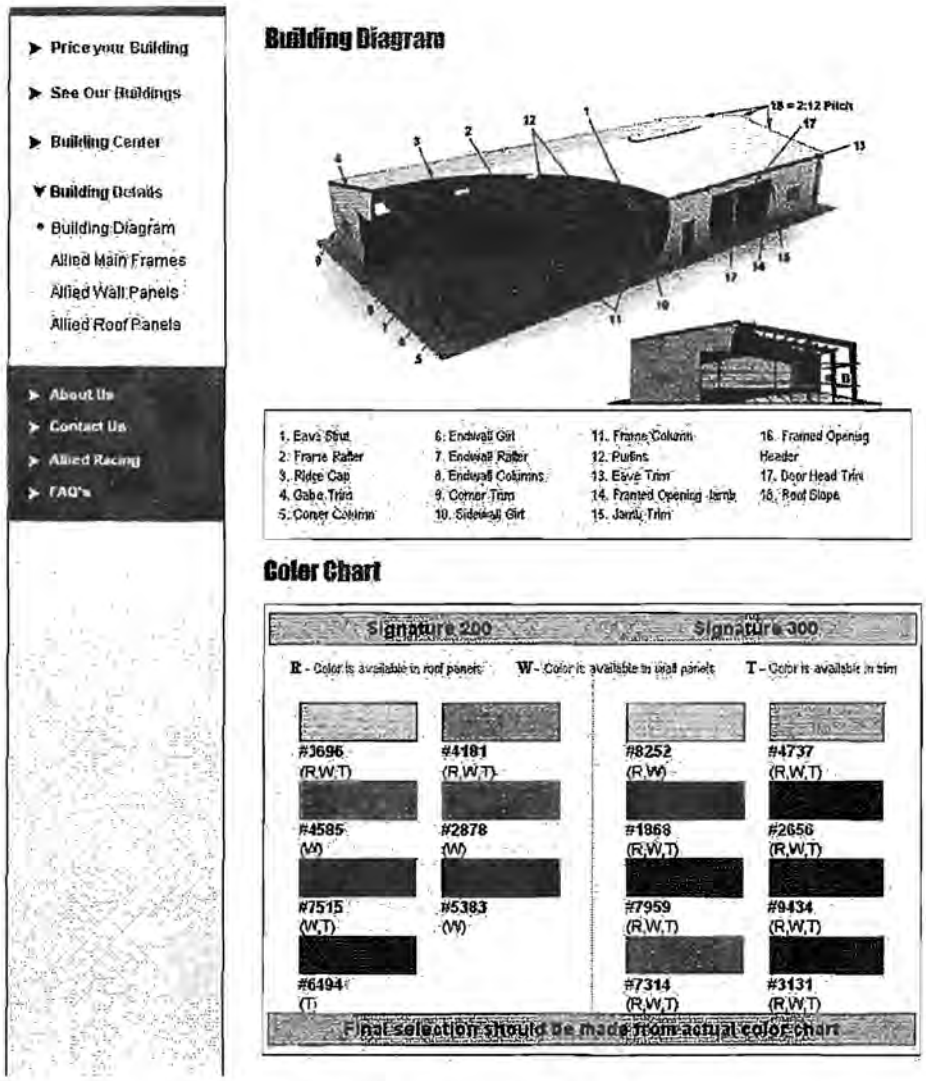
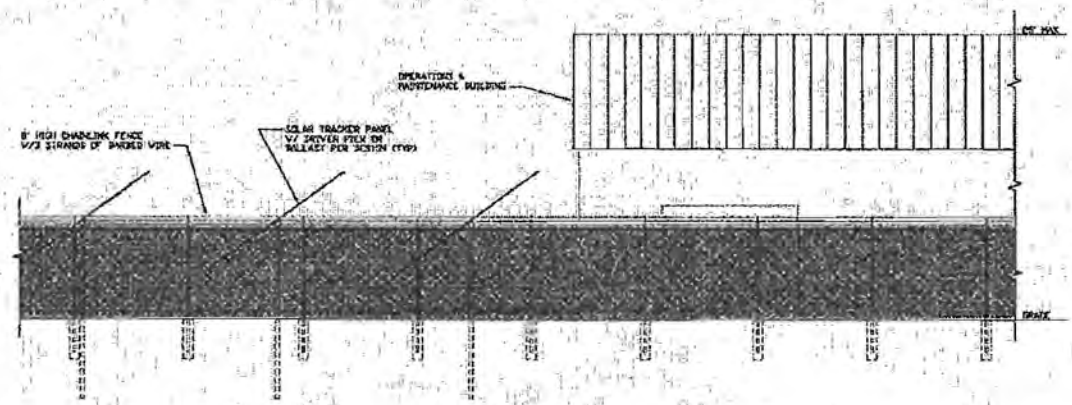


Figure 5. Typical Building Diagram and Color Chart.



ELEVATION LOOKING SOUTH FROM ELDORADO VALLEY ROAD

PROFESSIONAL ENGINEER-STATE OF NEVADA
DAVID H. AKOLA
Exp: 12-31-2009
CIVIL
No. 7012
12/15/2009

PRELIMINARY
NOT FOR CONSTRUCTION

WorleyParsons

NEXTLIGHT
BOULDER CITY SOLAR, LLC

CONCEPTUAL
ELEVATIONS AND DETAILS

NLBC-3-SK-111-001-003 B

Ninyo & Moore	OPERATIONS AND MAINTENANCE BUILDING CONCEPTUAL ELEVATION	FIGURE
PROJECT NO. 302931002 / DATE 12/09	ENVIRONMENTAL STATEMENT NEXTLIGHT BOULDER CITY SOLAR PROJECT BOULDER CITY, NEVADA	6

2.2.3.7. Substation

The Project substation will be located along the western edge of the site either immediately north of south of Eldorado Valley Drive (south location shown on Figure 1). The substation area will be approximately 350 feet by 350 feet, and the tallest structures within the substation area will be approximately 60 feet in height.

2.2.3.8. Site Access, Roads, Fencing, and Security

Access to the project will be from State Highway 95 to Eldorado Valley Drive. Access from Eldorado Valley Drive to the PV sites both north and south of Eldorado Valley Drive will be provided. A paved access road will be installed providing access to the O&M building and the facility switchyard location. This will be a common drive off of Eldorado Valley Drive, with access to gates for both the O&M facility and the switchyard. This is the only proposed paved road on site. All other interior roads depicted on the "General Arrangement Conceptual Layout" drawing (Figure 2) will be either native soil treated with dust suppressants or surfaced with aggregate base rock. Additionally, a paved parking area will be provided at the O&M building to meet the Boulder City requirements.

The solar field and support facilities perimeter will be secured with 8-foot chain link security fencing with 1 foot of 3-strand barbed wire on top for a total height of 9 feet. Cameras may be installed in some locations for additional security. Controlled access gates will be located at the site entrance.

2.3. Fabrication and Construction

2.3.1. Preconstruction Activities

Most of the Project site will be drained by sheet flow to on- and off-site drainages. Areas of the facility that may release contaminants, such as the O&M building and delivery areas, will be provided with stormwater containment designed to accommodate

runoff from the 25-year storm event, as appropriate. On- and off-site drainage is being coordinated with the City's proposed master drainage plan for the City's Energy Zone.

2.3.2. Clearing, Grubbing, and Grading

Minor grading will occur throughout the solar field to create a uniformly graded site. Vegetation will be removed as needed and is expected to be completely removed from most of the project site. Minor grading will include cuts and fills that are not expected to exceed 12 inches. The minor grading will be limited to that necessary for the technology chosen. The outside edge of the PV solar field has been located between 40 feet and 100 feet from the property line to allow for the grading and construction of drainage features. This grading is detailed and described in the report by Taney Engineering, dated July 31, 2009, entitled "Conceptual Drainage Study for Solar Energy Zone 1,000+ Acres." Cut generated from the ditch grading represents the majority of cut for the project and is estimated at 219,000 cubic yards (Taney Engineering, Aug 2009). Excavation from the channel grading will be placed as engineered fill within the solar field.

2.3.3. Assembly and Construction

Assembly of the solar panel units and construction of the solar array will occur concurrently. The solar panel units will be assembled within the project area footprint in a temporary covered assembly area, approximately 40,000 square feet and 35 feet in height. The assembly areas will be located adjacent to the permanent O&M building. In addition, multiple temporary staging and laydown areas will be located throughout the Project site to support final assembly and installation. The staging areas will be approximately 6 acres each and the laydown areas will be approximately 0.75 acres each. Approximately one staging area and six laydown areas will be required throughout the Project construction period. As construction progresses across the site, equipment will be removed from each temporary staging and laydown area, and solar panel units will be installed.

During peak construction, an estimated average of approximately 58 truck trips per day will be required to supply concrete, construction materials, Project components, and equipment to the site. To provide concrete during construction, either a concrete batch plant will be located on site or an off-site ready mix plant will be used. In either event, a similar number of trucks would be required to supply either concrete or concrete raw materials.

Construction of the solar array will occur in a series of approximately 1- to 3-MW blocks. Each block will be connected to the electrical grid as it is completed. Improved (earthen or gravel) roads will be located in a generally north-south orientation to allow access within the solar array.

Construction of the proposed 230-kV transmission line (Figure 4) will occur as described below, concurrent with the solar array construction and solar panel unit assembly. The centerline of the transmission line route will first be surveyed, with each pole location clearly staked. Pole holes will be approximately 6 to 8 feet in diameter, 20 to 30 feet deep, and will be augered wherever feasible. Conductor support hardware will be assembled at each pole location to minimize damage during transport.

It is expected that an area of approximately 100 feet by 150 feet will be required at each pole location for use as temporary laydown or as a staging area for equipment, poles, and hardware. In general, little to no grading is expected to be required for these areas, and disturbance to vegetation will be minimized or avoided. In addition, it is likely that approximately four conductor-stringing sites of approximately 50 feet by 200 feet will be required. Conductor stringing will occur by stationing stringing equipment at these sites, with smaller equipment (pickup trucks and flatbed trucks) traveling along the transmission line route as the conductor is installed.

Typical equipment expected to be used for transmission line construction includes: (1) backhoe, (2) truck-mounted pole hole auger, (3) forklift, (4) crane, (5) line truck

with air compressor, (6) various pickup and flatbed trucks, (7) conductor reel and pole trailers, (8) bucket trucks, and (9) truck-mounted tensioner and puller.

2.3.4. Construction Schedule

Construction of the Project, from site preparation and grading to commercial operation, is planned to take place from the fourth quarter of 2010 to the second quarter of 2012 (Table 2-1). Under this schedule, PV module installation will be at a rate of approximately 10 MW per month. This schedule is conceptual and subject to change, including potential acceleration, depending on conditions within the regional power markets.

Table 2-1. Project Schedule Major Milestones

Activity	Date
Begin Construction	Fourth Quarter 2010
Initial Energy Delivery	First Quarter 2011
Commercial Operation	Second Quarter 2012

The on-site construction workforce will consist of laborers, craftspeople, supervisory personnel, support personnel, and construction management personnel. The on-site assembly and construction workforce is expected to reach a peak of approximately 230 workers at an average construction rate of 10 MW per month, and 300 workers at a peak construction rate of 15 MW per month.

Construction may 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. For instance, during hot weather, it may be necessary to start work earlier in the morning or work later in the evening to avoid pouring concrete during hours when ambient temperatures are high. Due to the remote location of the site, the City has not imposed working hour restrictions due to light or noise.

Section 2.3.5 summarizes the construction activities that are planned at the Project site. A detailed, site-specific Project schedule will be developed during final Project design.

2.3.5. Construction Sequencing

The Project construction sequence is expected to be as follows:

- **Clearing:** Vegetation removal for installation of the PV panel structures will be completed as necessary ahead of structure installation, and dust control measures will be implemented in disturbed areas, in accordance with the project dust control plan.

- **Staging and Laydown:** Parking areas for construction workers, and staging and laydown areas for construction materials, will be prepared inside the solar field area.

- **Access Road:** Construction access road beds will typically be 20 to 30 feet wide, and will consist of compacted earth, surfaced with gravel or compacted soil. A stabilized entrance/exit will be provided to clean vehicle wheels prior to exiting the construction area. Most construction staff and workers will be at the jobsite on a daily basis.

- **Site Grading:** Because of the relatively flat topography at the site, minimal grading is expected. The solar panel units allow for installation on uneven ground, minimizing the need for grading.

- **Site Stabilization:** Disturbed areas will be stabilized during construction to minimize wind and water erosion, and generation of fugitive dust, by watering and/or the use of dust suppressants. Cleared and graded surfaces that will not be subject to future use or disturbance will be revegetated as practical to minimize dust. Revegetation will be conducted as soon as practicable, based on seasonal weather conditions, to maximize revegetation success.

- **Demobilization:** All temporary assembly and construction facilities will be removed from the site once construction is complete and the plant is in commercial operation.

Construction activities will be sequenced over the construction period so that only a portion of the Project site will be worked on at any given time. The Project construction contractor will mobilize and develop temporary construction facilities, staging, and laydown areas within the Project site as described above. Once a final design has been established, the contractor will prepare site maps showing the construction project in detail. Temporary construction facilities will include:

- Full-length trailer offices or equivalent
- Parking for construction worker vehicles
- Construction equipment parking
- Chemical toilets
- Tool sheds/containers
- Covered assembly area

- Solar field equipment laydown area
- Construction material laydown area
- Batch plant (may utilize existing off-site facility for concrete)

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

- Scraper
- Motor grader
- Excavator
- Dozer
- Dump truck
- Pad drum vibratory roller
- 4,000-gallon water truck
- Concrete truck
- Backhoe/loader
- Truck-mounted crane
- Grader-all
- Flatbed truck for pre-cast foundations
- Trencher
- Lightweight truck

2.3.6. Construction Waste Management

During construction, the primary waste generated will be solid non-hazardous waste. However, some non-hazardous liquid waste and hazardous waste (solid and liquid) will also be generated. All of the hazardous wastes will be generated at the Project site. The types of waste potentially generated during construction are described in the following discussion. Typical construction related wastes and anticipated methods of disposal are identified in Table 2-2.

Table 2-2. Wastes Generated During Construction

Waste	Origin	Composition	Classification	Disposal
Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wood insulation	Construction activities	Normal refuse	Non-hazardous	Recycle and/or disposal of in a Class II or III landfill
Scrap metals	Construction activities	Parts, containers	Non-hazardous	Recycle and/or dispose of in a Class III landfill
Empty hazardous material containers	Operation and maintenance of plant	Drums, containers, totes[1]	Hazardous and non-hazardous solids	Containers <5 gal will be disposed as normal refuse. Containers >5 gal will be returned to vendors for recycling or reconditioning
Spent welding materials	Construction activities	Solid	Hazardous	disposal at a Class I landfill

Waste	Origin	Composition	Classification	Disposal
Waste oil filters	Construction equipment and vehicles	Solids	Non-hazardous	Drain and recycle at a permitted TSDF
Used and waste lube oil	Combustion turbine and steam turbine lube oil flushes	Hydrocarbons	Hazardous	Recycle at a permitted TSDF
Oily rage, oil sorbent excluding lube oil flushes	Cleanup of small spills	Hydrocarbons	Hazardous	Recycle or dispose at a permitted TSDF
Solvents, paint, adhesives	Maintenance	Solids and liquids	Hazardous	Recycle at a permitted TSDF
Spend lead acid batteries	Construction machinery	Heavy metals	Hazardous	Store no more than 10 batteries (up to 1 year) -- recycle off site
Spend alkaline batteries	Equipment	Metals	Universal waste solids	Recycle or dispose off site at a Universal Waste Destination Facility
Waste oil	Equipment, vehicles	Hydrocarbons	Non-RCRA hazardous liquid	Dispose at a permitted TSDF
Sanitary waste	Portable toilet holding tanks	Solids and liquids	Non-hazardous liquid	Remove by contracted sanitary service
Stormwater	Rainfall	Water	Non-hazardous liquid	Discharge to stormwater drainage system
Fluorescent, mercury vapor lamps	Lighting	Metals and PCBs	Universal waste solids	Recycle or dispose off site at a Universal Waste Destination Facility
Passivating and chemical	Pipe cleaning and flushing[1]	Liquids	Hazardous or non-hazardous liquid	Sample and characterize -- if clean, dispose of in sanitary sewer; otherwise, manage appropriately off sit
Hydrotest water	Testing equipment and piping integrity	Water	Hazardous or non-hazardous liquid	Sample and characterize -- if clean, dispose of in storm drain; otherwise, manage appropriately off site

[1] Containers include <5 gallon containers and 55-gallon drums or totes.
RCRA = Resource Conservation and Recovery Act
TSDF = Treatment, storage, and disposal facility

2.3.6.1. Non-hazardous Solid Waste/Wastewater

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

Paper, Wood, Glass, and Plastics: Paper, wood, glass, and plastic wastes are typically generated from packing materials, waste lumber, insulation and empty non-hazardous chemical containers. These wastes will be recycled to the extent

practical. Waste that cannot be recycled will be disposed of weekly at an appropriately licensed landfill. On site, the waste will be placed in dumpsters.

Metal: Metal wastes that include steel (from welding and cutting operations, packing materials, and empty non-hazardous chemical containers) and aluminum waste (from packing materials and electrical wiring) will be generated during construction. Metal waste will be recycled where practical and non-recyclable waste will be deposited in an appropriately licensed landfill.

2.3.6.2. Wastewater

Wastewater generated during construction will include sanitary waste, stormwater runoff, equipment washdown water, and water from excavation dewatering (if dewatering is required). These wastewaters may be classified as hazardous or non-hazardous depending on their chemical quality, and handled and disposed of in accordance with applicable laws. See Section 2.3.6.3 for additional discussion of hazardous wastewaters.

2.3.6.3. Hazardous Waste

Most of the hazardous waste generated during construction will consist of liquid waste, such as flushing and cleaning fluids, passivating fluid (to prepare pipes for use), and solvents. Some hazardous solid waste, such as welding materials and dried paint, may also be generated during construction.

When pipes are cleaned and flushed, waste liquid will be generated. The volume of flushing and cleaning liquid waste generated is estimated to be one to two times the internal volume of the pipes cleaned. The quantity of welding, solvent, and paint waste is expected to be minimal. Wastewaters generated during construction could also be identified as hazardous, based on sampling and testing results. As applicable, a Spill Prevention, Control, and Countermeasures (SPCC) plan will be

developed in accordance with federal regulations to protect the environment from spills of petroleum products.

2.3.7. Erosion and Sediment Control Measures

Due to the removal or disturbance of soil and vegetation during construction, appropriate water erosion and dust-control measures will be required to minimize dust and sediment load to water bodies. Vegetation will be mulched or composted on site, as appropriate, to assist in erosion control and limit waste disposal.

2.3.7.1. Water Erosion Control Measures

Soil stabilization measures will be used to prevent soil erosion caused by stormwater runoff. The Project will apply for coverage under the State's Construction General Permit for stormwater discharges from construction activities and will prepare a Storm Water Pollution Prevention Plan (SWPPP) that will include implementation of Best Management Practices (BMPs) erosion-control measures to control stormwater runoff. Site-specific BMPs will be designed by the contractor in compliance with regulations and permit conditions. As appropriate, the Project will implement practices for temporary and final erosion control, including:

Year-round:

Monitor the weather using National Weather Service reports during construction to track conditions and alert crews to the onset of rainfall events.

- Preserve existing vegetation where feasible. Conduct clearing and grading only in areas necessary for Project activities and equipment traffic. Install temporary fencing or signage prior to construction along the boundaries of the construction zone to clearly mark this zone, preventing vehicles or personnel from straying onto adjacent off-site habitat.

- Sequence construction activities with the installation of erosion control and sediment control measures. Arrange the construction schedule as much as practicable to leave existing vegetation undisturbed until grading begins.

- Protect areas particularly susceptible to erosion by installing controls.

- Stabilize non-active areas as soon as feasible on those portions of the Project site where construction has temporarily or permanently ceased.

- Place covers over stockpiles prior to forecasted storm events and during windy conditions as necessary to prevent erosion of stockpiles. Place sediment controls (e.g., fiber rolls, straw bales, silt fencing) around the perimeter of stockpiled materials to control sediment runoff.

- Maintain sufficient erosion control materials on-site to allow implementation in conformance with General Permit requirements and as described in the SWPPP. This includes implementation requirements for active areas and non-active areas that require deployment before the onset of rain.

- Promptly repair and reapply controls according to BMPs in areas where erosion is evident.

During the rainy season:

- Implement temporary erosion control measures at regular intervals throughout the defined rainy season and as needed for site-specific conditions.

- Inspect and stabilize disturbed areas with temporary or permanent erosion control measures before rain events.

During the non-rainy season a combination of the following erosion controls may be used at the site:

- Scheduling
- Preservation of existing vegetation
- Hydraulic mulch
- Straw mulch
- Geotextiles and mats
- Earth dikes and drainage swales
- Velocity dissipation devices
- Slope drains
- Streambank stabilization

BMPs will be deployed in a sequence to follow the progress of grading and construction. As the locations of soil disturbance change, erosion controls will be adjusted accordingly to control stormwater runoff at the downgradient perimeter.

2.3.7.2. Wind Erosion Control Measures

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

Year-round:

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

2.3.8. Revegetation and Restoration

A plan for the revegetation and restoration of temporarily disturbed areas of the Project will be prepared prior to construction. The revegetation plan will be implemented during and immediately after construction (allowing for seasonal restrictions) for the areas that are temporarily disturbed. The Project facilities have an expected life of 30 years or more and a site restoration plan will include plans for the restoration of the Project site assuming the cessation of operation of the facility and its eventual decommissioning and removal.

2.4. Operation and Maintenance

2.4.1. Facility Operation

O&M activities associated with a PV power plant are minimal compared to conventional power plants. The Project will operate during daylight hours only and will require approximately 9 to 15 full-time equivalent personnel for operation, maintenance, and security. It is expected that one or two personnel will be available on site at all times. The primary maintenance and security services will be based out of the greater Las Vegas area.

Daily operation of the plant will begin when there is sufficient sunlight to begin operation of the solar panels. If trackers are used, the panels will be facing east in the morning and rotate on a single axis to follow the sun throughout the day. In the evening, the trackers will be rotated back to the east using power from the electrical grid so that the panels are once again in position to receive the morning sun.

Typically, the plant operators will work 9-hour days. Plant management and administrative staff will typically work 8-hour days, Monday through Friday. However, weekend and night shifts may be required depending on maintenance requirements. At times when non-routine maintenance or major repairs are in progress, the maintenance force may work longer hours and contract labor may be utilized as necessary. Security staff, either employees or contract personnel, may conduct patrols and monitoring of the site during nighttime hours.

2.4.2. Maintenance

Long-term maintenance schedules will be developed to include periodic maintenance and equipment replacement in accordance with manufacturer recommendations. Solar panels are warranted for 20 to 25 years and are expected to have a life of 30 or more years, with a degradation rate of approximately 0.5 percent per year. Moving parts, such as motors and tracking module drive equipment (if used), motorized circuit breakers

and disconnects, and inverter ventilation equipment, will be serviced on a regular basis, and unscheduled maintenance will be conducted as necessary.

No heavy equipment will be used during normal Project operation. Operation and maintenance vehicles will include trucks (pickups, flatbeds), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the site infrequently for equipment repair or replacement.

The primary water use during Project operation will be for washing of the solar panels, with a minor amount of water use for sanitary requirements. Approximately 9 acre-feet per year will be required for the twice annual panel cleaning; the washing frequency may vary depending upon weather conditions, but it is estimated that the panels will be washed twice per year.

Fire protection measures include remotely monitored fire detection devices and a fire hydrant located adjacent to the O&M building.

2.4.3. Waste Management

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

2.4.3.1. Non-hazardous Solid Waste

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

2.4.3.2. Non-hazardous Wastewater

The wastewater collection system will collect sanitary wastewater from sinks, toilets, and other sanitary facilities, and will be discharged to an on-site septic and leachfield system. Approximately 9 acre-feet per year will be required for the twice annual panel cleaning. Two gallons of water will be used twice per year to wash dust and dirt off each solar panel. This water will be non-hazardous and will be allowed to flow onto the ground.

2.4.3.3. Hazardous Waste

Limited quantities of hazardous materials will be used and stored on site for operation and maintenance that may require disposal as hazardous waste. These materials will include oils, diesel fuel, lubricants, solvents, janitorial supplies, office supplies, laboratory supplies, paint, degreasers, herbicides, pesticides, air conditioning fluids (chlorofluorocarbons [CFC]), sulfur hexafluoride (SF6), gasoline, hydraulic fluid, propane, and welding rods. These materials will generally be used in small quantities.

Any hazardous materials will be stored in the warehouse area of the O&M building. Flammable materials, such as paints and solvents, will be stored in flammable material storage cabinets with built-in containment sumps. The remainder of the materials will be stored on shelves, as appropriate. Due to the small quantities involved, the controlled environment, and the concrete floor of the O&M building, a spill will be able to be cleaned up without significant environmental consequences.

2.4.4. Health and Safety

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

2.4.5. Site Security

The Project site will be secured with an 8-foot chain-link fencing topped with three strands of barbed wire for a total height of 9 feet. Lighting will be provided at the O&M building, and the main plant access road. Lighting will be directed downward and shielded as required by County and local ordinance to minimize light trespass. A perimeter security system may also be installed as necessary.

2.5. Alternative Considered but Eliminate from Detailed Consideration

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

Facility Location Criteria

The primary objective of NextLight was to locate the solar facility in southern Nevada with the following characteristics: (1) adequate solar irradiation; (2) close proximity to a high capacity 230-kilovolt (kV) substation with access to multiple energy markets, and adequate transmission capacity to convey the electrical output of the Project without requiring downstream upgrades to the transmission grid; (3) minimal environmental concerns, to allow expedited permitting; (4) relatively flat site to minimize the need for site grading; (5) existing access to accommodate construction workforce needs; (6) lack of nearby sensitive receptors or land uses to minimize potential conflicts with project development; (7) land parcel large enough to accommodate a utility scale solar facility; and (8) access to nearby workforce sufficient to support project construction.

The proposed site is located within Boulder City's Eldorado Valley Energy Zone, which meets all of the project's siting objectives. Boulder City has established a zoning category of Energy Resource Zone (ER) in which land may be used for the development of private

and/or public solar and gas-fired "electric generation facilities, electrical transmission and distribution facilities, ancillary facilities, and other similar uses" as permitted uses. The El-dorado Valley Energy Zone is a 3,000 acre area specifically designated for this use.

The remote location of the energy zone with respect to the Boulder City population center minimizes the potential for affecting the local population. Noise, visual, and traffic impacts are all minimized by locating the project in the energy zone.

Two utility-scale solar generating facilities are already in commercial operation within the Energy Zone, and Boulder City Solar will occupy the remaining acreage reserved for solar development within the energy zone. Environmental pre-permitting of the energy zone by the city allows the project to proceed based on the issuance of a building permit by Boulder City. Species mitigation is accomplished through payment of an established city fee.

The project site is located less than 5 miles from several electrical substations including the El Dorado, Marketplace, McCullough, Merchant, and Nevada Solar One substations. These substations can provide the project with access to multiple energy markets including direct interconnection to Nevada Energy, the California Independent System Operator, and municipal systems.

The ability of the project to be in construction in 2010 and therefore be eligible for the U.S. Department of Energy's tax equity grant and loan guarantee programs, significantly affects the viability of the Boulder City Solar Project. Due to the highly expedited permitting process for the Eldorado Valley Energy Zone, the Boulder City Solar site is one of the few sites in the Western United States that can meet the 2010 construction requirement for the federal stimulus programs.

Transmission Line Criteria

Another key objective of NextLight was to locate the PV facility and the off-site 230-kV transmission line in an area such that: (1) the length of the transmission line interconnection to the electrical grid is less than 5 miles to minimize transmission line losses and costs; and

(2) necessary transmission line ROW can be acquired. The proposed Project site meets these criteria through its location within 3.5 miles of five major substations.

2.5.1. Alternatives Considered and Eliminated

Alternative sites, transmission options, and technologies were considered.

Site Alternatives

Based on the above described project objectives, viable project alternatives are limited. Few sites provide the access to adequate transmission, avoid significant environmental and land use impacts, and allow for permitting within the short time frame required for the federal stimulus programs. Site selection focused on the area in and around the Eldorado Valley Energy Zone, southwest of Boulder City. The energy zone provides optimal land use compatibility and access to multiple energy markets.

Because the area in and around the Eldorado Valley Energy Zone best meets all of the project objectives, the alternative sites considered were located in this vicinity. Two sites were considered as potentially viable alternatives, but eliminated upon further consideration.

One of the sites was the dry lake bed, a few miles north of the proposed site. This site was proposed by Boulder City as a potential location for solar development however, NextLight determined that development within the dry lake bed presented additional engineering costs and environmental issues.

Another, larger site also north of the proposed site was considered. This site presented the advantage of potentially allowing for development of a larger project that could improve the project economics, however, the site was in the process of being designated for solar development by the City and was not yet available for lease, and thus not as well positioned for early construction.

In addition to the above, both alternative sites would have required longer transmission interconnection, and neither of the alternative sites have the potential to reduce the environmental or land use impacts of the project.

Alternative Transmission Routes

The Project would interconnect to up to two substations located in close proximity to the project site (Nevada Solar One and Merchant). Transmission alignment alternatives that did not largely parallel existing transmission lines were eliminated from further consideration because they would be longer, create a strip of fragmented habitat between the existing transmission lines and the new project line and therefore result in proportionally greater environmental impacts. The selected alignment was also preferred by the City.

Alternative Technology

The Boulder City Solar Project is designed to utilize crystalline silicon or thin-film PV technology mounted on tracker or fixed tilt units. Other solar technologies considered by NextLight for the project included concentrating PV and solar thermal technologies.

The water demand is greater for solar thermal technology and therefore presents greater environmental concerns. Crystalline silicon and thin film are proven technologies, which is a necessary component in obtaining project financing. Concentrating PV and solar thermal technologies do not necessarily provide this benefit.

NextLight determined that the proposed project design using crystalline silicon or thin-film PV on tracking or fixed tilt units is the preferred technology for this site given the low water requirements, minimal site preparation, and grading requirements for PV panel installation, proven technology and reliability, and cost.

Additionally, none of the alternative technologies mentioned above are considered to be capable of reducing the potential environmental impacts associated with the proposed action. Concentrating solar would have a larger visual impact and solar thermal would

increase water use. Therefore, other alternative solar technologies were eliminated from further consideration.

3. EXISTING SETTING, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

3.1. Geology, Soils, and Paleontology

Identification of the environmental properties of soils and geologic hazard constraints with potential to affect the project location were identified using geologic maps, information available from the Nevada Bureau of Mines and Geology (Longwell et al. 1965), and other documents.

3.1.1. Existing Setting

The proposed facility will be located on alluvial soils in the Eldorado Valley. The Eldorado Valley is within the southern portion of the Basin and Range Province characterized by north-south trending valleys, bounded by normal faults, with alluvial fill underlain by older bedrock units. Based on the Geologic Map of the Boulder City 15-Minute Quadrangle, Clark County, Nevada (USGS, 1977), the site is underlain by Holocene alluvium and fanglomerate. The alluvium is reportedly unlithified, poorly sorted basin-fill clastic deposits that form fans and sheets in the Eldorado Valley. The thickness of the alluvium below the site is approximately 1,000 feet, where it is underlain by bedrock of the Bridge Spring formation, a Miocene-age rhyolitic ash-flow tuff.

Eldorado Valley is a closed drainage basin bounded to the west by the McCullough Range, to the north by the River Mountains, and the east by the Eldorado Mountains and the Opal Mountains. The mid-Tertiary volcanic and plutonic rocks occur in the McCullough, River, and Eldorado Mountains. The southern part of the McCullough Range and the Opal Mountains are formed primarily of Pre-Cambrian foliated metamorphic rock. The Eldorado Mountains were uplifted during the Miocene Basin and Range Uplift.

The soil textures in the project area are very gravelly, loamy sand, and very gravelly, fine sandy loam. There is a potential for soils in the Eldorado valley to be corrosive and reactive to concrete. The soil slopes range from 0 to 8 percent. The soil erosion potential for the entire project area is low. The project area has a moderate wind erosion potential, soils with rapid permeability, and very deep soil depths.

According to the Supplemental Environmental Impact Statement for the Clark County Regional Flood Control District (BLM 2004), the Quaternary alluvial deposits that cover most of the valley floors (Las Vegas Valley and Boulder City), including the Project site, have little or no paleontological potential.

3.1.2. Environmental Consequences

This section summarizes potential geologic and soil hazards or constraints on the proposed facility. Information was found in the Nevada Bureau of Mines publications (Longwell et al. 1965) and through the U.S. Geological Survey (USGS) Earthquake Hazards Program, Quaternary Fault and Fold Database (USGS 2009).

Soils: The soils in Eldorado Valley are very deep, medium-textured saline and alkaline soils in the lowland areas; shallow, gravelly coarse-textured soils over the alluvial fans; and discontinuous, rocky gravelly coarse-textured soils in the mountain areas (BLM, 1992).

The Web Soil Survey of the United States Department of Agriculture (USDA 2009) identifies two types of soil on the site, Tonopah-Arizo association and Hypoint gravelly sandy loam. The Hypoint soil (0 to 4% slopes), located on the northern portion of the site consists of several inches of gravelly sandy loam underlain by stratified sand to very gravelly course sand to a depth of 60 inches. The Tonopah-Arizo soils (2 to 8% slopes), located in the southern portion of the site, consist of gravelly sandy loam to a depth of about 9 inches underlain by extremely gravelly sand to a depth of 60 inches. These soils are well drained and should be easily excavated.

The soils in Eldorado Valley are susceptible to erosion by wind and water. The potential for erosion is generally slight except where the soils have been disturbed or along the banks of washes. The erosion susceptibility of the soils in Eldorado Valley ranges from low to moderate (BLM, 1992). Most of the erosion conditions range from slight to moderate, but two areas of critical erosion condition have been identified within the basin. Soils disturbed by grading and excavation will have a higher potential for erosion by wind and water.

The Taney Engineering drainage study (Taney, 2009) in the area indicates that the alluvial soils in the project area are very deep and are unlikely to present any problems for excavation or construction of the proposed drainage facilities at the site.

Faulting: The nearest potentially active fault is the Black Hills Fault, located 5 miles northwest of the proposed facility. According to the USGS (2009) on the basis of estimated ages of faulted deposits and scarp profile interpretation, the most recent surface faulting event on the Black Hills Fault probably occurred in the mid to late Holocene (less than 5,000 years before present). No faults are mapped at the site. This site, as well as most of the southern Nevada region, may experience ground shaking from possible future earthquakes in the region. Eldorado Valley is located within Seismic Zone 2B as defined by the Uniform Building Code, which is an area with moderate damage potential from seismic hazards.

Mineral Resources: Mineral resources in the area of the site include a potential for sand and gravel. Hard rock mining for gold, silver, copper, lead, and zinc occurred in the past in the southern part of the Eldorado Mountains and Opal Mountains. There is no active mining in the area of the site.

Paleontological Resources: The Quaternary alluvial deposits at the site have little or no potential for containing fossils that are paleontologically sensitive or legally protected.

3.1.3. Mitigation Measures

Site grading will include development of a surface drainage component that will divert off-site run-on around the site to minimize surface erosion from off-site surface flows. On- and off-site drainage is being coordinated with the City of Boulder City's proposed master drainage plan for the City's Energy Zone. Interior roads will either be composed of native soil treated with dust suppressants or surfaced with aggregate base rock. The project will apply for coverage under the State's Construction General Permit for stormwater discharges from construction activities and will prepare a SWPPP that will include Best Management Practices (BMPs). With BMPs in place for control of on-site surface flows, impacts from increased erosion and sedimentation due to ground disturbance activities would be reduced to non-significance.

A geotechnical engineering study of site soils will be conducted and recommendations will be provided for site grading, placement of fill, foundations for structures, seismic design, protection of concrete and metal from potential corrosion and reactivity, roadway construction, utility trenches, and mitigation of surface erosion.

The site design and construction will be in accordance with the City of Boulder City Construction Standards and the geotechnical engineering recommendations, which will address potential soil-related impacts.

A Dust Mitigation Plan will be required by the Clark County Department of Air Quality and Environmental Management and will be implemented and monitored to mitigate dust during construction. Removal of vegetation and grading along the transmission line and access roads would be minimized in order to minimize wind erosion. Water will be applied to disturbed soil areas to control dust, and excavation activities may be suspended during periods of high wind when dust cannot be reasonably controlled. Upon completion of construction, surface soils may be re-vegetated or be treated with a dust palliative to be monitored and maintained during operations of the facility.

The potential for extracting hard rock minerals is absent since bedrock does not outcrop on the site. No sand and gravel mining is currently planned in the area of the site, and mining is not a permitted use by the City in an Energy Resources Zone (ER). The proposed action would have no adverse impact on mineral resources.

If the above mitigation measures are implemented the potential impacts would be reduced to an acceptable level.

3.2. Groundwater and Surface Water Hydrology

Water resources include groundwater, surface water, and wetlands. Under the authority granted in Nevada Revised Statutes 533 and 534, the State Engineer oversees groundwater quality and issues permits for the use of both surface and groundwater. The US Army Corps of Engineers has authority and responsibility for wetlands.

3.2.1. Existing Setting

Groundwater

Eldorado Valley is situated within the Las Vegas Flow System, which is a subsystem of the regional Colorado Flow System (Harrill et al., 1988). Groundwater that originates as precipitation over areas of higher elevation in Eldorado Valley generally flows toward the axis of the basin and then north either into Las Vegas Valley or eastward into the Colorado River Valley. An estimated 1,000 acre-feet/year of groundwater discharges into the Colorado River Valley (Harrill et al; 1988).

Groundwater in Eldorado Valley is derived from two sources; recharge over the basin estimated at 1,100 acre-feet/year and subsurface inflow from Hidden Valley (Rush and Huxel, 1966). The recharge derived from flow from Hidden Valley is believed to be less than 300 acre-feet/year (Rush and Huxel, 1966).

Eldorado Valley is a designated groundwater basin. The depth to water in Eldorado Valley is believed to be highly variable. Nevada Division of Water Resources (http://water.nv.gov) on-line records list a borehole approximately 1 mile north of the

site. The depth to static groundwater in the borehole was measured at 700 feet below land surface (bls). In 2009, Ninyo & Moore advanced a soil boring to 15 feet bls below land surface on land adjacent to the proposed site. No perched groundwater was encountered. There are no registered groundwater wells located on site. According to Nevada Division of Water Resources on-line records, there are two existing water wells located within 1 mile of the site.

There are a number of springs in the upland areas of Eldorado Valley, but the combined discharge rate of these springs is relatively small. The more significant springs include McCullough and Ora Hanna Springs in the McCullough Range; Cow Spring in the Highland Range; and Tule, Bridge, and Forlorn Horse Springs in the Eldorado Mountains. These springs provide an important source of water and habitat for wildlife.

The committed groundwater resources of 2,390 acre-feet/year are more than four times the estimated perennial yield of 500 acre-feet/year. Appropriated water rights are registered primarily to mining and milling operations and municipalities, with minor quantities of water appropriated for quasi-municipal, stock watering, and industrial use (http://water.nv.gov).

Groundwater in Eldorado Valley is predominantly a sodium-bicarbonate type with high concentrations of total dissolved solids and a medium to high salinity hazard (Rush and Huxel, 1966). Historic analyses of the groundwater in some areas of Eldorado Valley indicate that concentrations of total dissolved solids, sulfate, and chloride exceed drinking water standards. The presence of historic mining districts suggests that soluble metals and other trace constituents may be present in portions of the aquifer. According to information on file with the Clark County Department of Health Services, iron, lead, manganese, mercury, and nitrate have been detected in groundwater at levels exceeding their respective maximum contaminant levels in the Searchlight area (Buqo and Giampaoli, 1988).

Surface Water and Jurisdictional Waters/Wetlands

The site is located in a relatively undisturbed desert habitat that shows signs of occasional off-road use. The surface water resources of Eldorado Valley are very limited. Although not known, the annual runoff within the basin has been estimated at less than 100 acre-feet/year (Scott et al., 1971). Surface runoff is very infrequent, occurring as ephemeral flow in the streambeds and, even less often, as ponded water on the playa in the north-central part of the basin. Surface water runs from the Boulder City Sewage Treatment Plant to the playa area. Flooding characteristics are probably similar to those in adjacent basins; i.e., shallow flash flooding over large areas.

There are no permanent surface water sources or wetlands in the project area. Several narrow and shallow ephemeral drainage swales or washes cross the site, predominantly in a southeast to northwest direction. The flow of water in these small drainage systems occurs only during infrequent storm events and has no nexus to the Colorado River system, and therefore would not be regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. Eldorado Valley is a closed basin; surface water runoff from the surrounding mountains is directed to the Eldorado Dry Lake located approximately 1.5 miles to the north of the proposed site.

The project area has been surveyed for flood hazards and mapped on the Federal Insurance Rate Map for unincorporated Clark County. The Eldorado Dry Lake is designated as a special flood hazard area subject to inundation by the 100-year floodplain. The adjacent area surrounding the playa, which includes the proposed site, has been determined by the Federal Emergency Management Agency to be outside of the 500-year floodplain (UNLV, 2009).

The project area is bordered to the north, east, south, and most of the west boundary by similarly undeveloped desert habitat. Adjacent to the northwest portion of the site is the existing SolarOne PV facility. Eldorado Valley Drive divides the property approximately in half. An existing earthen berm along the east side of U.S. Highway 95 directs stormwater from the Opal Mountains to the north, effectively bypassing the site and

thereby reducing the potential upgradient area of stormwater run-on to the site to less than 1 square mile.

Eldorado Valley does not contain "waters of the United States," which are broadly defined in 33 CFR 328.3(a) to include navigable waters as well as intermittent streams. The project area does not contain: (1) wetlands, wetland fringes or adjacent wetlands, or (2) spawning, feeding, or nesting areas for fish or other important aquatic species. No hydric soils exist within the site, and habitat on the site does not meet the regulatory definition of a wetland. Stormwater flows generally in a southeast-to-northwest direction, primarily via overland sheet flow into shallow drainage washes, which ultimately discharge to the playa located approximately 1 mile north of the site.

3.2.2. Environmental Consequences

Groundwater

The Project will obtain water from the existing Boulder City Public Works Department main, which runs north to south along the western boundary of the Solar One PV facility to the west of the site. Boulder City Public Works Department obtains its public water supply from intakes at Lake Mead, not from underground sources. Excavations during construction are not expected to be deep enough to intercept groundwater.

Surface Water

The proposed project would not divert flows from areas of perennial flow, nor would the project divert water from downstream habitat dependent on that water. During construction, increased surface disturbance could result in an increased level of erosion and could result in sediments reaching the playa bed directly through wind blown processes or via storm flows. However, as the playa is not habitat for threatened or endangered wildlife or aquatic species, the potential adverse impacts from increased erosion and sedimentation are likely to be within system normal limits and would be short-term. With BMPs in place, impacts from increased erosion and sedimentation due to ground-disturbance activity would be reduced to a level of non-significance.

3.2.3. Mitigation Measures

Groundwater

No excavations greater than 30 feet in depth are planned during construction. As discussed above, the depth to static groundwater in the Project area is approximately 700 feet. Therefore, no mitigation measures are necessary.

Planned wet processes on site would involve the occasional cleaning of the photovoltaic panels with untreated water from the municipal main, once or twice a year. This wash water would be non-hazardous and potential impacts to groundwater would be negligible because of the great depth to groundwater.

During construction, a sanitary service will be contracted to provide and maintain portable toilets on site. During operation, sanitary wastewater at the site will be treated by a pass-through commercial septic system designed, constructed, and maintained in accordance with applicable municipal standards. The approximate depth to static groundwater is 700 feet bls. With BMPs in place both during construction and operation, potential impacts from the sanitary discharges would be non-significant.

Surface Water

The site grading will include development of a surface drainage component that will divert run-on from the upslope off site and divert it around the site to an engineered debris basin on the northern, downgradient boundary. The debris basin would also act as an energy sink to minimize surface erosion to off-site surface flows. A general permit for stormwater discharge associated with construction will be required. The general permit requires the preparation and implementation of a SWPP. With BMPs in place for control of on-site surface flows, impacts from increased erosion, and sedimentation due to ground disturbance activities would be reduced to non-significance.

There are no existing surface water bodies located downgradient from the proposed site within the watershed. The site design and construction will be in accordance with the City of Boulder City Construction Standards, and the drainage study report recommen-

dations, which address potential flooding and erosion related impacts. There are no predicted impacts to downgradient resources; therefore, mitigation is not required. However, the following BMP's and standard engineering practices should be implemented to control drainage and minimize soil erosion, sedimentation, and pollution:

- Prepare and implement a SWPPP in accordance with the Clark County Department of Air Quality and Environmental Management and the Nevada Division of Environmental Protection.
- Implement BMPs such as locating waste and excess excavated materials outside drainages to avoid sedimentation.
- Install silt fences, temporary earthen berms, temporary water bars, sediment traps, stone check dams, or other equivalent measures (including installing erosion-control measures around the perimeter of stockpiled fill material) as necessary.
- Conduct regular site inspections during the construction period to see that erosion-control measures were properly installed and are functioning effectively.
- Maintain appropriate BMPs.

3.3. Air Quality

For the analysis, air quality is characterized by the existing concentrations of various pollutants and those conditions that influence the quality of the ambient air surrounding the proposed project. The primary factors that determine the air quality of the region are the locations of air pollution sources, the type and magnitude of pollutant emissions, and the local meteorological conditions. This analysis takes into account these factors and provides a reliable and conservative prediction of the air impacts that would occur during construction and operation of the proposed project. The Federal Clean Air Act (CAA) and subsequent amendments have provided the authority and framework for United States Environmental Protection Agency (USEPA) regulation of air emission sources. The USEPA regulations serve to establish requirements for the monitoring, control, and documentation of activities that affect ambient concentrations of certain pollutants that may endanger public health or welfare.

As an enforcement tool, the CAA established National Ambient Air Quality Standards (NAAQS), which have historically applied to six criteria pollutants—sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter equal to or less than 10 microns in diameter (PM_{10}), ozone (O_3), and lead (Pb) (Table 3.1). These standards are defined in terms of threshold concentration (e.g., micrograms per cubic meter [$\mu g/m^3$]) measured as an average for specified periods of time (averaging times). Short-term standards (i.e., 1-hour, 8-hour, or 24-hour averaging times) were established for pollutants with acute health effects, while long-term standards (i.e., annual averaging times) were established for pollutants with chronic health effects. More recently, additional standards for 8-hour average O_3 concentrations and particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$) were added.

Table 3-1. National Ambient Air Quality Standards

Pollutant	Averaging Periods	NAAQS	
		Primary	Secondary
Sulfur dioxide (SO_2)	3-hour	--	0.5 ppm
	24-hour	0.14 ppm	--
	Annual	0.03 ppm	--
Particulate matter equal to or less than 10 microns in diameter (PM_{10})	24-hour	150 $\mu g/m^3$	150 $\mu g/m^3$
	Annual	50 $\mu g/m^3$	50 $\mu g/m^3$
Particulate matter equal to or less than 2.5 microns in diameter ($PM_{2.5}$)	24-hour	65 $\mu g/m^3$	65 $\mu g/m^3$
	Annual	15 $\mu g/m^3$	15 $\mu g/m^3$
Carbon monoxide (CO)	1-hour	35 ppm	--
	8-hour	9 ppm	--
Nitrogen dioxide (NO_2)	Annual	0.053 ppm	0.053 ppm
Lead (Pb)	Quarterly	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$
Ozone (O_3)	1-hour	0.12 ppm	0.12 ppm
	8-hour	0.08 ppm	0.08ppm

Sources: U.S. Environmental Protection Agency 2005b, 2005c, 2005d, 2005e, 2005f, 2005g, 2005h, and 2005i

Notes:
ppm - parts per million
$\mu g/m^3$ - micrograms per cubic meter
NAAQS - National Ambient Air Quality Standards

Geographic areas are designated as attainment, non-attainment, or unclassified for each of the six criteria pollutants with respect to the NAAQS. If sufficient monitoring data are available and air quality is shown to meet the NAAQS, the USEPA may designate an area as an attainment area. Areas in which air pollutant concentrations exceed the NAAQS are desig-

nated as non-attainment for specific pollutants and averaging times. Typically, non-attainment areas are urban regions and/or areas with higher-density industrial development. Because an area's status is designated separately for each criteria pollutant, one geographic area may have more than one classification.

3.3.1. Existing Setting

In general, the region of air quality influence consists of low-elevation arid Mojave Desert surrounded by desert mountain terrain, all within Clark County, Nevada. The mountain ranges defining the Eldorado Valley would tend to contain discernable air quality effects. In this valley, elevations in the vicinity of the project range from approximately 470 feet above mean sea level (MSL) on the valley floor to peaks of more than 7,000 feet above MSL in the McCullough Range to the west and 5,060 feet above MSL in the Eldorado Range to the east.

The geographic areas (or airsheds) for NAAQS compliance are defined by hydrographic basins. The proposed Project is located in the Eldorado Valley, Clark County, Nevada, which has been designated Hydrographic Basin 167. The Eldorado Valley airshed is designated non-attainment for the 8-hour ozone standard and unclassified for the other criteria pollutants per EPA's Region 9 Air Quality Maps. The Clark County Department of Air Quality and Environmental Management (DAQEM) have further designated the Eldorado Valley airshed as a management area for CO, PM_{10}, NO_x, and volatile organic compounds (VOC) (precursor to ozone). This designation is a preemptive measure to address an area that has a possibility of causing an exceedance of the NAAQS limits.

Sources of criteria air pollutants in the project area include the Eldorado Energy power plant, the Nevada Solar One (concentrated solar technology) power plant, the University of Nevada Las Vegas Solar Technology Center, windblown dust, fugitive dust from off-road vehicle use, and emissions from vehicles traveling on Eldorado Valley Drive and U.S. Highway 95.

There are no ambient air quality monitoring stations within the project area. The nearest station, which monitors ozone and PM_{10}, is located over 15 miles to the northeast in Boulder City, Nevada.

3.3.2. Environmental Consequences

An air quality impact is caused by changes in the concentrations of ambient air pollutants as a result of specific actions. Construction of the proposed Project is projected to take approximately 21 months. Construction traffic is estimated at 1,266 trucks per month and 300 workers during peak construction, with 230 on average. The emissions for the paved road components were based upon maximum trucks per month and number of workers at peak construction. The calculation of unpaved road emissions assumed that 20 workers (or light duty vehicles) would travel the interior and perimeter portions of the Project site on a daily basis.

Emissions of criteria pollutants for the proposed Project were calculated for four distinct phases. Those phases considered were:

1. The initial land disturbance that includes clearing, grading, grubbing, etc. during the first phase of construction.
2. Construction of the solar array and on-site substation.
3. Operation and maintenance of the facility following construction.
4. Construction of a high-voltage transmission line.

During Phase 1, the project would include grading the approximately 1,130-acre site resulting in localized, short-term increases in fugitive dust (PM_{10} emissions). The increase in PM_{10} would be primarily from soils disturbed during clearing and grubbing of vegetation and grading the site. The other criteria pollutants associated with this phase would result in insignificant quantities of emission associated with the combustion of fuel from the various construction equipment. The first phase is expected to take approximately 3 months.

Criteria pollutant emissions during Phase 2 activities would result from employee and construction vehicles, and heavy equipment moving across the site during construction of the solar array. Those emissions from worker travel to and from the project site have been included in this analysis. Exhaust from construction vehicles and heavy equipment would result in localized, short-term increases in CO and NO_x emissions. Construction of the entire solar array is expected to take approximately 12 months.

Phase 3 criteria pollutant emissions would result from vehicle traffic within the facility fence line during the operation and maintenance of the solar arrays. These emissions can be characterized as *de minimis* and would result in no long-term impact on the existing ambient air quality.

Criteria pollutant emissions during Phase 4 would result from employee and construction vehicles, and heavy equipment moving across the site and along the ROW during construction of the high-voltage transmission gen-tie line. Those emissions from worker travel to and from the project site have been included in this analysis. Exhaust from construction vehicles and heavy equipment would also result in localized, short-term increases in CO and NO_x emissions. Construction of the entire transmission gen-tie line facility is expected to take approximately 22 weeks. This analysis is based on an assumed transmission line constructed on steel poles.

The methodologies and calculated criteria pollutant emissions data associated with the aforementioned phases are further discussed below. Each phase and its associated mass emissions were calculated as worst-case scenarios using USEPA and/or Clark County DAQEM-approved pollutant emission factors and methodologies.

Emission estimates were compiled for construction of the facility and the transmission line, and routine ongoing operations and maintenance. Primary sources of criteria pollutant emissions for construction activities are related either to fuel use in internal combustion engines or to dust emitted into the air from various activities. Criteria pol-

lutant emissions from both of these source types are described in detail below and are summarized in Table 3-2.

Table 3-2. Total Emissions

Source Category		TSP	CO	NO_x	VOC	SO_2	PM	PM_{10}	$PM_{2.5}$
Site Preparation	Construction	350						124	12.4
Solar Panels Exterior Road	Unpaved roads	114	2.9	1.3	0.34	0.00	0.03	29	3.0
Solar Panels Interior Road	Unpaved roads	93	1.5	0.64	0.17	0.00	0.02	27	2.7
Solar Panel Construction	Wind erosion	161						81	12
Solar Panel Construction (Hwy 95)	Paved roads	86	239	27	13.8	0.08	0.43	16	4.5
Solar Panel Construction (Eldorado)	Paved roads	39	21.8	2.4	2.2	0.01	0.04	7.5	1.8
Solar Panels Exterior Road (O&M[1])	Unpaved roads	2	0.09	0.01	0.01	0.00	0.00	0.4	0.04
Solar Panels Interior Road (O&M)	Unpaved roads	1	0.04	0.00	0.00	0.00	0.00	0.4	0.04
O&M	Wind erosion	7						3	0.50
O&M (Hwy 95)	Paved roads	0.42	4.7	0.28	0.26	0.00	0.00	0.06	0.02
O&M (Eldorado)	Paved roads	0.20	0.40	0.03	0.04	0.00	0.00	0.04	0.01
TLC[2]	Unpaved roads	3.1	0.05	0.01	0.00	0.00	0.00	0.9	0.09
TLC (Hwy 95)	Paved roads	1.4	1.4	0.30	0.09	0.00	0.01	0.28	0.07
TLC (Eldorado)	Paved roads	0.9	0.20	0.04	0.02	0.00	0.00	0.18	0.04
TLC Nonroad Vehicles	Exhaust	0.38	3.2	9.2	0.43	0.01		0.38	0.38
Total Emissions - Construction	Tons/18 months	843	265	31.3	16.5	0.09	0.52	285	37
Total Emissions - O&M	Tons/year	10	5.2	0.31	0.31	0.00	0.00	4	0.06
Total Emissions - TLC	Tons/5 months	5.9	4.8	9.6	0.54	0.01	0.01	1.6	0.6

Initial construction activities (site preparation) would include grubbing and grading the site, expected to take approximately 3 months. Phase 2 of construction is the completion of the solar facility (based on the construction of 1-MW arrays), which is expected to take approximately 12 months. An additional construction project considered in this analysis is the construction of a high-voltage transmission line, which is expected to take approximately 22 weeks.

The PM_{10} emission factor for construction (0.11 tons/acre-month) was obtained from the March 2001 Clark County PM_{10} State Implementation Plan (SIP). Based on the emissions factors for unpaved roads (*Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Areas Sources* [AP-42], EPA 2008, Section 13.2.2), the $PM_{2.5}$ emission factor is 10% of the PM_{10} factor. For the purpose of this inventory, it was assumed that 1,130 acres would be disturbed by construction activities. For the purpose of calculating particulate emissions consistent with the available emission factor (i.e., 0.11 tons/acre/month) it was assumed that one-third of these acres (approximately 377 acres) would be disturbed each month for 3 months during Phase I clearing and grading.

Emissions associated with constructing the solar panels and the transmission line are from heavy trucks delivering materials and employee vehicles. Emission sources include fugitive dust emissions for vehicle travel on paved and unpaved roads, motor vehicle exhaust, and wind erosion. Fugitive dust emissions from paved and unpaved roads were calculated using AP-42 emission factors, the estimated number of vehicles, vehicle parameters, paved and unpaved road travel distances, and an estimated 55 percent control factor for watering the unpaved roads during construction (AP-42 Section 13.2.1 and Section 13.2.2). Wind erosion emissions for the disturbed area were calculated, based on an AP-42 emission factor (Section 11.9), and an AP-42 particle size distribution for PM_{10} and $PM_{2.5}$ (Section 13.2.5).

Emissions associated with operating the facility are from employee vehicles and wind erosion. Emission sources include fugitive dust emissions for vehicle travel on paved and unpaved roads, motor vehicle exhaust, and wind erosion. Fugitive dust emissions from paved and unpaved roads were calculated using AP-42 emission factors, the estimated number of vehicles, vehicle parameters, paved and unpaved road travel distances, and an estimated 55 percent control factor for dust suppressants planned for the facility roads (AP-42 Section 13.2.1 and Section 13.2.2). Wind erosion emissions for the area were calculated, based on an AP-42 emission factor (Section 11.9), an AP-42 particle

size distribution for PM_{10} and $PM_{2.5}$ (Section 13.2.5), and an estimated 90 percent control factor for the planned mitigation measures.

Vehicle exhaust emissions (NO_x, SO_2, CO, PM_{10}, $PM_{2.5}$, and VOC,) can come from on-road and non-road motor vehicles. On-road vehicles would include heavy trucks and employee vehicles. It was assumed that both the trucks and employee vehicles would travel 30 miles each way. On-road motor vehicle emissions were calculated using the Utah Division of Environmental Quality (UDEQ) 2005 mobile source (MOBILE6) emission factors for Washington County. The Utah factors were selected because they were readily available and represent a more recent year than the data in the Clark County SIPs. The MOBILE6 SO_2 emission factors were adjusted to account for more restrictive gasoline and diesel sulfur standards than was assumed in the state's analysis. Non-road vehicles include backhoes, augers, forklifts, cranes, line trucks, bucket trucks, tensioner and puller vehicles, and other support equipment. Emissions from these vehicles were estimated using estimated number of vehicles and non-road emission factors obtained from an Environmental Impact Statement prepared for the Toquop Energy Project (2007).

Based on the criteria pollutant emission data and the project not having triggered a federal action the project is not required to carry out criteria pollutant dispersion modeling for a demonstration of compliance with the NAAQS.

3.3.3. Mitigation Measures

Since the major source threshold emission rate in a non-attainment area is 100 tons per year, the proposed Project would not be a major stationary emission source and would not be subject to Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permitting requirements under the Clean Air Act. Emission sources used to construct and operate the proposed Project will not exceed major source thresholds. Therefore, the proposed action is assumed to conform to the Clark County SIP.

Construction activities that disturb soils and emit or have the potential to emit particulate matter must obtain a Dust Control Permit from the DAQEM. As part of the Dust Control Permit, the applicant must also submit a Dust Mitigation Plan. This Dust Mitigation Plan will specify the control measures that would be implemented during construction to reduce fugitive dust and minimize impacts to ambient air quality. Dust control measures would include watering the disturbed soil areas and unpaved roads during construction, applying dust suppressants during routine operations, applying soil stabilizers or crushed aggregate for wind erosion control, installing a construction entrance with track-out control devices, and stabilizing disturbed land surfaces with pavement, revegetation, or suppressants directly after construction is completed in each area.

3.4. Biological Resources

The biological resources of interest include the vegetative communities on and in the vicinity of the proposed project, common native and introduced plants and animals, and species afforded special protection. The information in this section summarizes the findings contained in a detailed Biological Evaluation presented as Appendix B.

3.4.1. Existing Setting

Vegetation

The project area is located within the floristic province known as the Mojave Desert. This Desert encompasses some 32 million acres. The dominant vegetation type in the project area is Creosote Bush Scrub which is widespread and covers approximately two-thirds of the Mojave Desert below about 5,000 feet in elevation. Creosote bush is a dominant or co-dominant member of most plant communities in the Mojave, and also in the Sonoran, and Chihuahuan deserts.

Other plants typical of this community and common within the project area include: white bursage, broom snakeweed, desert trumpet, and desert globemallow. The project area also contains some Desert Wash Scrub habitat which community occurs on several

of the sandy, shallow washes and secondary drainages within the project area. Vegetation typical within this community included cheesebush, shadscale, and acacia. Cacti and yucca were observed to have a scattered and scarce distribution in the project area.

Non-native invasive plant species were present in the project area including: Sahara mustard, Mediterranean grass, red brome, and Russian thistle or tumbleweed. These species are considered noxious weeds as they can out-compete native species, can increase fire hazard, and be injurious to public health, agriculture, recreation, wildlife, and property.

Wildlife

The proposed project area supports wildlife characteristic of the Mojave Desert. Species observed or identified indirectly by sign (tracks, scat or droppings, burrows, feathers, bones, etc.) included those common to the region. Reptiles observed included western whip-tail lizard, desert iguana, side-blotched lizard, zebra-tail lizard, desert tortoise, coachwhip snake, and Mojave rattlesnake. Avian species identified included turkey vulture, common raven, and red-tailed hawk. These species are raptors or predatory birds that commonly hunt from wing. No nesting habitat, such as rocky outcrops, tall trees, or cliff faces is located on the project. They may use the area for forage or traverse while hunting. Mammals occurring at the site likely include coyote, kit fox, kangaroo rats, pocket mice, California jackrabbits, and desert cottontails.

Threatened and Endangered Species

The desert tortoise is the only federally protected species known to inhabit the project area. It is listed by the United States Fish and Wildlife Service (USFWS) as threatened with extinction, and protected under the Endangered Species Act of 1973, as amended. The project area has not been designated as critical habitat for the desert tortoise.

Following USFWS protocols, detailed pedestrian surveys were conducted and the results reported in the Biological Evaluation appended to this report (Appendix B). In summary, approximately 1,130 acres of the Project site and 3.5 miles of transmission

line ROW were evaluated by biologists surveying parallel transects spaced at approximately 10-meter intervals. The project area was found to contain low tortoise population densities of between 10 to 45 animals per square mile.

Migratory Birds

According to the Migratory Bird Treaty Act of 1918 and subsequent amendments (16 U.S.C. 703–711), it is unlawful to take, kill, or possess migratory birds. The Act protects the birds, nesting birds, and prohibits activities that result in migratory birds abandoning an active nest.

Numerous bird species travel through Nevada during spring and fall migrations. The list of birds protected under this regulation is extensive and the project area has potential to support many of these species. Typically, the breeding season is when these species are most sensitive to disturbance, which generally occurs from March 15 through July 30.

Sign of one particular bird protected by this Act, the western burrowing owl, was frequently observed on the site. This bird is active during daylight hours and is ground nesting, often using the burrows excavated by other animals such as desert tortoise.

3.4.2. Environmental Consequences

Vegetation

Vegetation on the site would be removed prior to construction and the site fenced for security. Impacts to vegetation would consist mainly of loss of about 1,130 acres of Mojave Creosote Bush Scrub and Desert Wash Scrub habitat. The effects would be localized within the Eldorado Valley. As Creosote Bush Scrub covers much of the 32 million acres of the Mojave Desert, in the context of the total habitat the loss associated with this project would be less than significant. Because of the abundant nature of this plant community, and because there are no protected plants on the Project site, mitigation would not be warranted.

Wildlife

The primary direct impact of construction activities on wildlife would be the removal or disturbance of wildlife habitat. Clearing and grading activities would result in the mortality of some less-mobile wildlife (e.g., some reptiles and burrowing mammals). More mobile species may avoid the initial clearing activity and move into adjacent areas. Mitigation measures designed to reduce impacts to desert tortoise and burrowing owls would also benefit some other wildlife species, therefore further mitigation is not warranted.

Threatened and Endangered Species

Approximately 1,130 acres of desert tortoise habitat would be lost via development of the project. Direct impacts to the desert tortoise would result from construction activities including removal of habitat, loss or displacement of habitat features such as shade cover, loss of forgeable plant material and potential direct mortality from vehicles. Indirect impacts would occur during construction and operation activities, as well as during post construction. Newly created access roads would increase human presence and subsequently increase fire risk, habitat fragmentation, spread of invasive species, vehicle strike, the threat of tortoise collection, vandalism, and spread of disease. The tortoises could be subject to higher risks of predation from coyotes and raptors if trash and litter were uncollected as this could attract predators to the area.

3.4.3. Mitigation

Desert Tortoise

Under the terms of a Multiple Species Habitat Conservation Plan, the USFWS has determined that loss of tortoise habitat within Clark County is acceptable through a mitigation plan where the project proponents pay a per-acre fee where the funds are used to set aside and protect lands to ensure the tortoise survival as a species in perpetuity.

In addition to paying the $550 per acre fee (approximately 1,130 acres x $550) or up to $621,500. As described in the appended Biological Evaluation, in addition to this habitat compensation NextLight proposes to voluntarily implement additional desert tortoise protection measures that include:

- Tortoise fence construction and monitoring
- Tortoise clearance surveys and relocation
- Desert tortoise protection education for construction workers
- Speed limits and signage
- Trash and litter control

Western Burrowing Owls

To prevent affecting active burrowing owl nests and breeding, NextLight will conduct surveys prior to the breeding season and collapse or blockade owl burrows after ascertaining they are not occupied.

Other Nesting Birds

A qualified biologist will conduct a nesting bird survey to identify any potential nesting activity prior to the proposed construction activities. If passerine (small perching birds) are found to be nesting, or there is evidence of nesting behavior, a 250-foot buffer will be required around the nest. For raptor species the buffer will be 500 feet.

3.5. Cultural Resources

Cultural Resources are those parts of the physical environment, both natural and built, that have cultural value of some kind to some sociocultural group (King 2004:12). They may include: archaeological sites, historical archaeological sites, buildings, Native American graves and cultural items, shipwrecks, religious sites and structures, cultural landscapes, and traditional cultural properties that are listed or eligible for listing on the National Register of Historic Places (NRHP). This section summarizes the results of cultural resources investigations conducted by DuBarton (2009) for the Project site. Because archaeological sites are

sensitive to disturbance and vandalism, the results of these investigations are available only to approved agency representatives (Appendix C).

3.5.1. Existing Setting

Identification of cultural resources with potential to affect the project location were identified using review of the official site record archives stored at the Harry Reid Center for Environmental Studies at the University of Nevada, Las Vegas, and through review of historic documents such as maps, newspapers, and monographs. As-built drawings documenting road construction and repair were obtained from the Nevada Department of Transportation. Previously unrecorded cultural resources were identified through field investigation utilizing pedestrian survey of the entire project area.

3.5.1.1. Historic Context

Little is known about the Eldorado Valley and its relationship to regional archaeological cultures. While the region is generally assigned to the Southern Paiute culture area, a realistic view of the region is that both prehistorically and historically it functioned as a major travel corridor between the Colorado River and the Las Vegas Valley. Particularly in the period post-dating 1500 years before present, several varieties of cultural influences are manifest in the region. These include Anasazi, Patayan, and Numic traditions. Because the area is at the crossroads of these distinct cultural traditions, it is difficult to assign a comprehensive sequence of phases for the entire area. A chronology presented in Ezzo's (1995) publication works well for the early periods, but a chronology developed by others during the past 5 years (Ahlstrom 2003; Ahlstrom and Roberts 1999, 2001a, 2001b; Roberts and Ahlstrom 2000; Roberts et al. 2003a, 2003b) better characterizes the complexity of later occupations.

Their chronological framework, presented in Table 3-2, includes four major periods: Paleo-Archaic (10,000–5500 BC), Archaic (5500 BC–AD 500), Ceramic (AD 500–1800) and Historical (AD 1500–1950). They defined their first three periods

(10,000 BC–AD 1800) with reference to archaeological data, whereas their fourth period (AD 1800–1950) is based on historical and ethnohistorical data.

Table 3-3. Chronological Sequence of the Las Vegas Valley

Period	Subperiod	Date Range
Paleo-Archaic	Fluted Point Tradition	10,000-9200 BC
	Stemmed Point Tradition	9200-5500 BC
Archaic	Middle	5500-3000 BC
	Late	3000 BC-AD 500
Ceramic	Early	AD 500-1000
	Middle	AD 1000-1500
	Late	AD 1500-1800
Historic Paiute, Chemehuevi, and Mohave		AD 1800-1905
Historical Euro-American	Exploration/Pioneering	AD 1600-1855
	Transportation	AD 1856-Modern
	Mining	AD 1863-1941
	Power Generation and Transmission	AD 1931-1950

Historic use of the project area may have begun as early as 1604, when the first Spanish travelers explored the Colorado River. Steam driven stern-wheel paddle boats came up the Colorado beginning in 1852 making the region more accessible to those seeking to find gold in the Eldorado and McCullough mountain ranges. A mining boom developed in the Eldorado Canyon region prior to 1863, bringing thousands of rough and lawless individuals into the mining camps of Eldorado and later Nelson. These communities continued to produce ore at varying levels until 1941. The next big mining boom began around 1897 at a camp that became known as Searchlight. The boom was relatively short-lived and by 1910 people were leaving the camp for Las Vegas.

As mining declined, development of dams and hydroelectric power marked the decades of the 1930s through the 1950s. After completion of Hoover Dam, transmission lines were constructed through Eldorado Valley to southern California. In

1954, a natural gas pipeline was constructed through the valley to Las Vegas, and additional electrical transmission lines were constructed in subsequent periods.

During all of these developments, transportation between the remote area and population centers was a key theme. Roads between Las Vegas and the Eldorado Canyon mines developed as early as 1872. By 1907 the road was extended southward through Eldorado Valley to Searchlight, although reportedly it was very rough. By 1926, the road was designated Highway 5 and appeared on contemporary road maps. Beginning in the early 1930s, and continuing through the 1950s, improvements were made to portions of the road. The modern highway 95 traverses roughly the same route, but diverges from the old road in several locations.

3.5.1.2. Result of Field Investigation

NewFields conducted the archaeological survey in accordance with Nevada BLM *Cultural Resource Inventory General Guidelines* (BLM 1990, as revised). The survey area was located "on the ground" using U.S. Geological Survey topographic maps and physical landmarks such as roads. A crew of two technicians surveyed the project area walking parallel transects spaced no more than 30 meters apart. Survey of most portions of the project area was accomplished utilizing transects oriented along primary directions, while in other areas topography or man-made landmarks served to orient the survey routes. The main PV location area was surveyed utilizing north/south transects. The transmission line that will tie the PV array to one of three existing substations was surveyed walking along either side of the proposed ROW (see Figure 1). Because no sites had been previously recorded within the project area, relocation of previously recorded sites was not necessary.

During field investigations a portion of a historic road were located. This site was recorded on standard Intermountain Antiquities Computer System (IMACS) forms. GPS locations and digital photographs record the location and visual characteristics of the artifacts. This road and associated features and artifacts can provide

information to aid archaeologists in understanding the development of transportation systems in southern Nevada (see DuBarton 2009, Appendix C).

3.5.2. Environmental Consequences

Construction of the proposed Project would result in the destruction of a historic road containing important information. This constitutes a direct adverse effect upon this resource and measures will be necessary to mitigate these impacts.

3.5.3. Mitigation Measures

The first step to mitigating impacts to cultural resources resulting from construction of the proposed Project should be development of a Treatment Plan describing research goals and data recovery methodology. Because the historic site (road) would be totally lost should the site be graded, it is recommended that additional research be conducted along the road. This research would include driving along the entire road in a four-wheel drive vehicle to determine if any stonework or drainage culverts remain and intensive recording and analysis of any additional features or artifacts that are encountered, and limited collection of diagnostic artifacts. Presentation of mitigation results from data recovery should be in a technical report that describes the results obtained during the mitigation phase.

3.6. Land Use

Land use refers to how a community uses its land: what is built and where. Land use includes land ownership and the governing entities' management plans and zoning that define land use types and regulate development.

3.6.1. Existing Setting

The U.S. Congress passed Public Law (P.L.) 85-339 in 1958 to provide for the direct sale of 126,775 acres of public land in the Eldorado Valley in Clark County, Nevada to the Colorado River Commission acting on behalf of the State of Nevada. The Colorado River Commission purchased 107,412 acres in 1995 from the U.S. Department of

Interior, Bureau of Land Management (BLM) and subsequently sold it to the City of Boulder City. This area is referred to as the Eldorado Valley Transfer Area and extended the City's corporate limits significantly to the south and west. The sale of the Eldorado Valley Transfer Area by the BLM was subject to specific land uses, including approximately 3,000 acres for solar energy development, approximately 6,000 acres for recreation use, and the remaining for conservation of the desert tortoise (BLM, 1994).

The proposed project site is owned by the City of Boulder City and is designated as Clark County Assessor's parcel numbers 207-000-02-017 and -018, 213-000-01-002, and 213-000-01-011. The Boulder City Comprehensive Master Plan has this zoned "ER" for Energy Resource Zone. According to the zoning ordinance for Boulder City, a permitted use for this zone is the development of private and/or public solar electric generation facilities, electrical transmission and distribution facilities, ancillary facilities, and other similar uses (Boulder City, 1997).

Land adjacent to the Energy Resource Zone is zoned "GO" for Government. The permitted use for this zone is public or quasi-public uses and preservation of open space real property (Boulder City, 1988). The City granted an easement to Clark County for this land, consisting of approximately 85,000 acres, as a condition of the sale by the BLM. The Desert Conservation Program manages the easement for the preservation and protection of the desert tortoise and its habitat.

Land uses in the vicinity of the project within the Eldorado Valley are primarily limited to electric power generation and transmission. The playa area is used for off-road vehicle recreation, including land sailing.

The proposed site is undisturbed, vacant land located in the Eldorado Valley Transfer Area on the land zoned for energy development. Five existing substations are located within a few miles of the proposed project: Southern California Edison's El Dorado Substation, Los Angeles Department of Water and Power's McCullough Substation, the Marketplace Switching Station, the Nevada Solar One Substation, and the Merchant

substation. These substations connect the transmission systems of southern Nevada, California, and Arizona.

3.6.2. Impacts of Proposed Action

Boulder City has an Energy Zone including the Project site, specifically for energy development and has zoned the area Energy Resources Zone (ER). The proposed Project is a permitted use within this land use designation.

Construction would convert approximately 1,130 acres of desert land to developed facilities and linear appurtenances. The facilities have been planned, and will be designed, and constructed in compliance with the Boulder City Comprehensive Master Plan and appropriate city codes. The project in its proposed location would not conflict with other adjacent land uses or zoning designations. Adjacent land uses could continue without change.

There would be no change in land use and zoning designations. The proposed site would continue to be zoned for energy development.

3.6.3. Mitigation

Because no adverse effects to land use were identified, no mitigation is required.

3.7. Transportation

The following sections address project transportation activities. Off-site traffic, level of service, and turning movements are evaluated.

3.7.1. Existing Setting

U.S. Highway 95 (US 95) runs north-south through Eldorado Valley and is divided with two lanes in each direction. At the northern end of the valley, US 95 intersects U.S. Highway 93 approximately half the distance between Boulder City, Nevada, and Henderson, Nevada. U.S. Highway 93/95 continues northwestward through Henderson and through Las Vegas where it intersects Interstate 15. At the southern end of the valley at

Searchlight, Nevada, US 95 intersects east-west trending State Route 164, a single lane in both directions.

Nevada Department of Transportation (NDOT) maintains Annual Average Daily Traffic (AADT) Count Stations. The nearest to the site, Station 0031014, is located about 0.1 miles south of the Railroad Pass intersection on US 95 and has shown historic traffic counts for 2008 of 10,000; 2007 of 12,000. The peak AADT between 1999 and 2009 was the 2006 count of 12,700.

3.7.2. Environmental Consequences

During peak construction, the Project would generate approximately 140+ trips per day. As the most recent count of 10,000 is down from the historic high of 12,700 AADT, this would represent a negligible incremental increase in traffic and be well within the normal variability where the roads have demonstrated historic capacity to handle the traffic. Therefore, no impacts to level of service are anticipated.

The turning movements of vehicles exiting US 95 during peak construction have a minor potential to affect flow of traffic.

3.7.3. Mitigation Measures

To reduce or eliminate the turning movement effects, which could slow or delay traffic during construction, a traffic control plan would be prepared as in coordination with NDOT and Boulder City.

3.8. Visual Resources

Visual resources include the natural and manmade features that give a particular environment its aesthetic qualities. Together, they form the overall impression of an area, referred to as its visual character. Visual character is evaluated to assess whether a proposed project would appear compatible with the existing setting or would contrast noticeably with the setting and/or appear out of place.

3.8.1. Affected Environment

The landscape character of Eldorado Valley is typical of the Great Basin. Regional topography consists of mountain ranges arranged in a north-south orientation, separated by broad valleys. Visible features in the Project vicinity include U.S. Highway 95, existing solar arrays, power transmission lines, gravel quarries, and electrical substations. The landscape at Eldorado Valley is common to the region, and because of the amount of cultural modifications, the scenic quality has been altered.

While the proposed solar facilities will be located on lands administered by the city of Boulder City, other lands in the vicinity are managed by the Bureau of Land Management (BLM). BLM has well-developed methods designed to characterize the visual quality in similar non-urban settings and those methods were used to evaluate the Project. Factors typically considered are: angle of observation, number of viewers, the length of time the Project is in view, the project size, the season of use, and light conditions (BLM 1986). This methodology categorizes lands into four classes based on the relative value of the visual resources (see BLM 2004, Figure 3.8-1). Class I and Class II are the most valued, Class III represents a moderate to low value, and Class IV is of lowest value (BLM 1986).

The mix of developed and natural views in the project is consistent with a Class III or low scenic value rating. Along US 95, from the intersection of US 93 and US 95 to Laughlin, federally managed lands along adjacent to the highway have been similarly designated Class III, or low scenic value (BLM 1998). As Boulder City has zones the project vicinity in general and the project area specifically suitable for solar development, the level of change to the characteristic landscape can be high and activities and facilities may dominate the view and be the major focus of viewer attention.

Scenic Quality. The scenic quality of the project area combines both natural and man-made and elements. An existing solar array adjacent to the proposed project area is clearly visible from US 95 from the junction of US 93 and south toward Laughlin. Other man-made features within the view shed include power plants, numerous trans-

mission lines, and substations. In the distant backdrop are alluvial fans and mountain ranges typical of the Basin and Range. Unimproved and dirt roads cross the area, and recreational vehicle use in the dry lake bed has modified the natural environment in some locations.

Sensitivity Levels. Sensitivity levels are a measure of public concern for scenic quality. The main user groups identified in the area are in vehicles traveling at highway speeds on US 95 and off-road vehicle users that primarily focus activities in the nearby dry lake bed.

3.8.2. Environmental Consequences

Consistent with the BLM methodology, the area is classified as having low scenic quality. This is because the visual character of the landscape in the project area has been impacted by previous manmade modifications to the landscape. In particular, the construction of existing generation facilities and transmission lines directly adjacent to the project area has interrupted the views such that unobstructed views do not exist. Therefore, while the proposed project will be visible from motorists on US 95, it will be consistent with an existing solar generation facility.

3.8.3. Mitigation Measures

Potential impacts to visual character are consistent with the existing setting and planned use as an Energy Zone, therefore mitigation is not warranted.

3.9. Soundscape

Noise refers to unwanted sound that interferes with normal activities or reduces the quality of the environment. Response to noise varies according to its type, its perceived importance, its appropriateness in the setting, time of day, and the sensitivity of the individual receptor.

A decibel (dB) is a unit of measurement used to define sound levels. Sound measurement is further defined by using an "A-weighted" decibel (dBA) scale that describes how an

individual perceives sound. There are differing sensitivities to noises relative to the time of day. Therefore, a day-night average noise level (Ldn) is used to determine whether noise would be perceived adversely. The United State Environmental Protection Agency (USEPA) has developed an index (threshold) to assess noise impacts from a variety of sources using residential receptors.

Noise is one of the major public concerns associated with construction and operational activities. Some of the factors to consider when assessing an acceptable level for a specific area are distance from major thoroughfares and airports, population density, age of the neighborhood, and time of day. Noise sensitive receptors are defined as the occupants of a facility or a location where a state of quietness is a basis for use or where excessive noise interferes with the normal use of the facility or location. Typical noise sensitive receptors include schools, hospitals, churches, libraries, homes, parks, and wilderness areas. Some species of wildlife may also be sensitive to noise.

3.9.1. Existing Setting

The proposed project site is located in a rural area. Day-night ambient noise levels of 40 to 50 dB on the A-weighted scale (dBA) are expected in rural areas (USEPA 1974). The project area is a rural environment with low ambient noise levels. Sources of noise include the power generating stations at the El Dorado Energy plant, the Nevada Solar One (NSO) power plant, the Solar Technology Center, the natural gas line regulating station, traffic on U.S. Highway 95, and off-road vehicles. The project area experiences low to moderate noise levels. Although no specific data are available, background noise levels at the proposed project site would be expected to range from 40 dBA (rural area during the day) to 60 dBA (commercial area heavy traffic), with occasional spikes related to equipment operation and off-road vehicles passing the site.

The visitor center at the El Dorado Energy power plant and the Solar Technology Center could be defined as noise sensitive receptors. Although these facilities serve as a classroom and museum, the sensitivity of the receptor is limited by the purpose for the

function. The visitor's center serves to educate people about the energy industry and noise from the adjacent power plant is therefore expected and acceptable. The administration building at the NSO power plant is not a noise sensitive receptor because its basis of use is industrial operations. Public lands and wilderness areas in the vicinity would be considered noise sensitive.

3.9.2. Environmental Consequences

Construction of the proposed project would result in temporary increases in ambient noise levels for approximately 21 months. A variety of construction equipment such as graders, backhoes, trenchers, jackhammers, vibratory hammers for driving piles, cement trucks, dump trucks, and delivery trucks would generate noise intermittently during daylight hours. Noise levels from construction sites measure approximately 90 dBA at a distance of 50 feet from the site. Sites in flat-lying areas with minimal vegetation experience noise attenuation at a rate of 6 dBA for each doubling of distance between the source and the receptor (CERL, 1978). A receptor located between 800 and 1,000 feet away from the proposed project site would experience a noise level of approximately 65 dBA and therefore would not be negatively impacted by construction activities. With no noise sensitive receptors within this distance, the proposed Project would not have an impact on sensitive receptors.

Operational noise from solar panel arrays that may be installed on the proposed site would be negligible and would likely be inaudible against ambient levels. Performing outdoor maintenance, repositioning test equipment, and using tools in the test areas of the proposed PV site would temporarily increase ambient noise levels but no receptors would be impacted.

3.9.3. Mitigation Measures

Heavy equipment would generate noise that could affect the on-site workers during construction. Construction equipment typically emits noise in the 85 to 100 dB range. The construction contractor would require workers to wear hearing protection as

necessary in accordance with Occupational Safety and Health Administration (OSHA) regulations.

3.10. Waste Management and Hazardous Materials

Hazardous materials are substances that may be hazardous to human health as a result of toxicity, chemical hazard, reactivity or flammability and explosivity. Fuels, lubricants, and other liquid materials would be used at the site during construction. Non-hazardous solid waste used on the site may include construction debris, landscaping waste, and household waste.

3.10.1. Existing Setting

A Phase I Environmental Site Assessment was conducted of the project site in general accordance with ASTM E-1527-05 (URS, 2009, Appendix D). That study included a review of the site history, historical aerial photographs, and interviews with representatives of the City of Boulder City, and review of environmental databases. The site is described as vacant desert land with a Southwest Gas natural gas pipeline traversing the site in a north-south direction. No hazardous substances were observed on the property during the site reconnaissance and no hazardous substances were historically used or stored on the property. No on-site recognized environmental conditions (RECs) or off-site RECs were identified during that study. URS (2009) concluded that no further investigation is warranted at this site.

The City of Boulder City operates a Class I Municipal Landfill for municipal solid waste. Municipal solid waste is collected under contract from residences and businesses and disposed of at the landfill located at the end of Utah Street at the southeast portion of the city. In addition, Republic Services operates the Apex Class I Landfill that operates under contract to handle commercial and municipal wastes from incorporated and un-incorporated areas of the Las Vegas Valley.

3.10.2. Environmental Consequences

This section summarizes potential solid waste and hazardous waste that might be generated during construction of the facility and during operations of the project.

The construction of the proposed Project will generate solid waste in the form of soil and brush from clearing and grubbing, building materials from installation of the PV panels, transmission lines, the operation and maintenance building, access road, and parking area. Solid waste generated during construction will be transported for disposal at a licensed waste management facility.

The operation of the proposed facility is expected to generate limited amounts of solid waste only from routine maintenance activities and daily office activities, all of which would be disposed of at a licensed waste management facility.

The construction and operation of the proposed facility is not expected to require the transportation, use, or generation of hazardous materials or hazardous wastes that could create a significant hazard to the public or environment. The types of materials that would potentially be present during construction would be minimal volumes of vehicle fuels, lubricating oils, paints, adhesives, and sealants. Under ordinary use, none of these materials would result in the generation of hazardous wastes. As the construction contractors would be required to comply with environmental and work-place safety laws and procedures, no significant risks to public health and safety would be expected from the proposed action.

3.10.3. Mitigation Measures

A solid and hazardous waste management plan will be prepared and implemented for both construction and operation of the proposed facility. Included in the solid and hazardous waste management plans will be stipulations and procedures regarding compliance with federal, state, and local regulations for waste minimization, storage, and disposal. The construction contractor shall prepare BMPs that describe the methods

for working with hazardous materials during construction. These shall describe methods for avoiding spills as well as the required response if a spill occurs.

3.11. Socioeconomics

Socioeconomics describe the local economy, employment, and demographics that may be influenced by the project. Potential socioeconomic impacts also considered include those to minority and low-income populations.

3.11.1. Existing Setting

Boulder City is located in Clark County, Nevada, which until recently was one of the fastest growing counties in the U.S. Through 2006, the economy of Clark County was experiencing significant increases in job growth, labor force, personal income, and property valuation. Boulder City, on the other hand, has maintained a controlled growth policy. In 2007, Boulder City's population remained steady with the unemployment rate less than the U.S. average, and jobs increased by 3.8 percent, and the City's cost of living is over 18 percent higher than the U.S. average. The construction sector is the largest for males at a reported 22% of employment in Boulder City (Boulder City 2009).

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

The proposed project site is located within the corporate limits of Boulder City in a rural area zoned for energy development. The project area is in census tract 57.03 that encompasses Eldorado Valley. The demographics of this census tract were compared with the demographics of Boulder City to identify any potential environmental justice

population. The numbers of Blacks and Hispanics residing in the census tract are 14 percent and 10 percent more, respectively, than the City as a whole. These percentages can be viewed as being meaningfully greater as compared to the general population of Boulder City and therefore defined as an environmental justice population in regards to minority status (from US Census Bureau [2000] in DOE 2009).

3.11.2. Environmental Consequences

The Project could generate temporary employment opportunities during construction activities and as construction is Boulder City's largest employment sector for males this is anticipated to have a slight but beneficial effect.

Operations of the Project does not include a residential component or require a substantive number or employees and therefore would not be expected to increase population or change the local demographic character. Pursuant to a long term land lease agreement between the City and Project proponent, the City stands to gain significant revenues from the successful construction and operation of the Project over the term of the lease. There is also the potential for significant "secondary" economic benefits to flow from the Project to businesses and trades located with the City in connection to operations and maintenance of the Project facilities over the lift of the Project, although such benefits are difficult to quantify with precision.

The analysis indicates that the proposed project would be located in a census tract that has a higher percentage of minorities than the general population of Boulder City. However, no one lives adjacent to or in close proximity to the site therefore no environmental justice populations would be unduly affected. Construction and operation of the project would not have long-term or adverse health or environmental impacts and therefore no effects would not be disproportionately borne by any population group.

3.11.3. Mitigation Measures

Potential impacts were beneficial, therefore no mitigation is warranted.

3.12. Summary of Environmental Consequences and Mitigation Measures for the Proposed Action

This summary is intended to be used by the PUCN in evaluating the project and by NextLight and others to ensure implementation of the recommended mitigation measures, which are likely to be adopted as a condition of approval. Table 3-4 identifies the potential impact, described in earlier sections in this document, along with the corresponding timing, implementation and monitoring responsibilities.

3.13. Environmental Consequences of the No-Action Alternative

This alternative assumes that the proposed project would not be developed. It is also assumed that land use and solar use zoning would remain unchanged and the site be undeveloped although it is possible that another solar facility could locate on parts or on the entire project site. Without a specific project proposal to assess, evaluating impacts would necessarily be speculative. It is therefore more appropriately under this No Action Alternative to assume the site would remain vacant and no project would be constructed or operated. Neither the Project impacts or its benefits would be realized under this alternative.

Table 3-4 Summary of Mitigation and Monitoring

Impact	Mitigation	Timing			Responsibility	
		Preconstruction	Construction	Operation	Implementation	Monitoring
Geology and Soils						
Erosion from storm water runoff	Obtain permit for storm water discharges from construction activities.	x			Construction Contractor	NDEP
Pollution from storm water runoff	Prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs).	x			Construction Contractor	NDEP
Soil erosion	Conduct geotechnical investigation providing recommendations for site grading, placement of fill, foundations for structures, seismic design, protection of concrete and metal from potential corrosion and reactivity, roadway construction, utility trenches, and mitigation of surface erosion.	x			NextLight	Boulder City
Groundwater And Surface Water Hydrology						
Erosion and sedimentation	Prepare and implement a SWPP in accordance with the Clark County Department of Air Quality and Environmental Management and the Nevada Division of Environmental Protection.	x			Construction contractor	NDEP
	Implement BMPs such as locating waste and excess excavated materials outside drainages to avoid sedimentation.		x		Construction contractor	NextLight
	Install silt fences, temporary earthen berms, temporary water bars, sediment traps, stone check dams, or other equivalent measures (including installing erosion-control measures around the perimeter of stockpiled fill material) as necessary.		x		Construction contractor	NDEP
	Maintain appropriate BMPs during facility operations.		x		Facility operator	NDEP
Air Quality						
Localized, short-term increases in fugitive dust (PM_{10} emissions).	Obtain a Dust Control Permit from the Department of Air Quality and Environmental Management (DAQEM).		x		Construction contractor	DAQEM
	Prepare a Dust Control Management Plan. Elements would include watering the disturbed soil areas and unpaved roads during construction, applying dust palliatives during routine operations, applying soil stabilizers or crushed aggregate for wind erosion control, installing a construction entrance with track-out control devices, and stabilizing disturbed land surfaces with pavement or landscaping directly after construction is completed in each area.	x			Construction contractor	DAQEM

Table 3-4 Summary of Mitigation and Monitoring

Impact	Mitigation	Timing			Responsibility	
		Preconstruction	Construction	Operation	Implementation	Monitoring
Biological Resources						
Impacts to Desert Tortoise	· Tortoise fence construction and monitoring.	x			Biological Consultant	NextLight
	· Tortoise clearance surveys and relocation.					
	· Desert tortoise protection education for construction workers.					
	· Habitat compensation.	x			NextLight	Clark County
	· Speed limits and signage.		x		Construction contractor	NextLight
	· Trash and litter control.					
Impacts to Burrowing Owls and other Migratory Bird Species	In conjunction with desert tortoise removal burrowing owls would be flushed from occupied burrows and dens collapsed or blocked.	x			Biological Consultant	USFWS
	Prior to vegetation removal, ideally scheduled outside of the nesting-bird season, which extends from February 15 to August 31; a qualified biologist shall conduct a nesting bird survey to identify any potential nesting activity prior to proposed construction activities.					
	If the survey finds passerine birds (i.e. small, perching birds) to be nesting, or there is evidence of nesting behavior within 250 feet of the impact area, a 250-foot buffer shall be required around the nest for raptor species, the buffer would be 500 feet.					
Cultural Resources						
Destruction of a historic side that is potentially eligible for listing on the National Register of Historic Places	Field inventory, data collection, recordation, and artifact collection or historic materials associated with the historic road.	x			Cultural Resource consultant	NextLight
Transportation						
Turning movement effects on traffic during construction	A traffic control plan would be prepared as in coordination with NDOT and Boulder City. Elements	x	x		Construction contractor	NDOT
	· Temporary traffic controls to minimize the potential for construction activities to result in traffic disruptions.					
	· Signs and/or flagmen to alert drivers of approaching lane closures and/or construction activities, and to safely maintain potential alternate one-way traffic flow, as needed.					

Table 3-4 Summary of Mitigation and Monitoring

Impact	Mitigation	Timing			Responsibility	
		Preconstruction	Construction	Operation	Implementation	Monitoring
Soundscape						
Construction noise	Workers to wear hearing protection, as appropriate, in accordance with Occupational Safety and Health Administration (OSHA) regulations.		x		Construction contractor	OSHA
Waste Management And Hazardous Materials						
Generation of solid waste and hazardous materials	Prepare and implement a solid and hazardous waste management plan. Included will be stipulations and procedures regarding compliance with federal, state, and local regulations for waste minimization, storage, and disposal.	x	x	x	Construction contractor/ facility operator	NDEP

Geology, Soils, Paleontology

As the site would remain undisturbed the soils and alluvial deposits would be subject to the existing natural wind and rainfall processes. Although soils on site are too recent to house paleontological resources (fossils) there would be no effect under this alternative.

Ground and Surface Water Hydrology

There would be no effect to surface water, groundwater, or water quality at the site or along the transmission and access corridors.

Air Quality

A Dust Control Permit and subsequent Dust Mitigation Plan are not required of undisturbed land.

Biological Resources

There would be no disturbance of approximately 1,200 acres of Mohave creosote bush scrub/Mojave desert wash scrub and the associated desert tortoise and other biota.

Cultural Resources

If the proposed project were not constructed on this site, erosion, unauthorized use, and vandalism will continue to affect resources found in the area.

Land Use

The No Action Alternative would result in a change to land use or zoning designations. The proposed site would continue to be zoned for solar energy development.

Transportation

Under this alternative there would be no material change in traffic counts and level of service would remain unchanged. The short-term construction impacts to traffic on US 95 requiring a Traffic Management Plan would not occur.

Visual Resources

Under the No-Action Alternative, no change from existing character of visual resources would occur as a result of this project.

Soundscape

If the Project were not constructed, the site soundscape would remain the same as described in the existing setting.

Hazardous Materials

There would be no potential for increased risk of storing and using hazardous materials or generating and disposing of hazardous wastes.

Socioeconomics

The temporary and beneficial effects of increased local construction employment would not occur. The longer term benefits to the City resulting from project lease revenues would not accrue.

4. LIST OF PREPARERS AND REVIEWERS

This section provides the name, qualifications, professions, and contact information of each person with primary responsibility for the preparation of the environmental statement and of each person who has provided comments or input in the preparation of the statement.

Table 4-1. List of Preparers and Reviewers

Organization	Contact Information	Name and Title	Project Role
NextLight Renewable Power, LLC.	353 Sacramento Street, Suite 2100 San Francisco, CA 94111	Bill Chilson, Director, Siting and Permitting	Senior Review
		Jackson Moore, Manager of Engineering	Project Description and Technical Review
		Roy Skinner, Manager, Siting and Permitting	Project Description and Technical Review
NewFields Environmental Planning and Compliance, LLC.	8250 W. Charleston, Suite 100 Las Vegas, NV 89117	Ken MacDonald, Partner-Senior Environmental Manager	Environmental Statement Project Manager, Socioeconomics, Transportation
		Anne DuBarton, Senior Environmental Scientist	Cultural Resources, Environmental Permit Planning
		Adam Hamburg, Environmental Scientist	Biological Resources

Table 4-1. List of Preparers and Reviewers

Organization	Contact Information	Name and Title	Project Role
Ninyo & Moore	6700 Paradise Road, Suite E Las Vegas, Nevada 89119	Greg Beck, CEM , Principal Environmental Scientist	Quality Assurance/Quality Control
		Albert P. Ridley, P.G., CEM Principal Geologist	Project Management, Quality Assurance/Quality Control
		Sarah E. Hoffman Senior Staff Environmental Geologist	Air Quality and Soundscape
		Albert P. Ridley, P.G., CEM Principal Geologist	Geology, Soils, and Paleontology
		Courtney Brooks, Senior Project Hydrogeologist	Surface and Groundwater Hydrology
	3001 South 35th Street, Suite 6 Phoenix, Arizona 85034	Bill Jamieson, Principal Environmental Scientist	Air Quality, Soundscape, Quality Assurance/Quality Control
	7334 South Alton Way, Suite M Centennial, Colorado 80112	Robert A. Zimmer, Principal Environmental Scientist	Air Quality

5. LIST OF ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
AC	alternating current
AP-42	*Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Areas Sources*
BLM	Bureau of Land Management
bls	below land surface
BMPs	Best Management Practices
CAA	Clean Air Act
cfc	chlorofluorocarbons
CFR	Code of Federal Regulations
City	City of Boulder City
CO	carbon monoxide
CO_2	carbon dioxide
DAQEM	Department of Air Quality and Environmental Management
dB	decibel
dBA	Expression of the relative loudness of sounds in air as perceived by the human ear
DPG	Data Processing Gateway
HMI	Human Machine Interface
IMACs	Intermountain Antiquities Computer System
kV	kilovolt
Ldn	Average noise level
MSL	mean sea level
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NDOT	Nevada Department of Transportation
NSR	New Source Review
NextLight	NextLight Renewable Power, LLC
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NRHP	National Register of Historic Places
NSO	Nevada Solar One
OSHA	Occupational Safety and Health Administration
03	Ozone
O & M	Operations and maintenance
Pb	Lead
P.L.	Public law
PM_{10}	particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$	particulate matter equal to or less than 2.5 microns in diameter
PSD	Prevention of Significant Deterioration
PUCN	Public Utilities Commission of Nevada

PV	photovoltaic
RCRA	Resource Conservation and Recovery Act
RIG	Remote Intelligent Gateway
SCADA	Supervisory Control and Data Acquisition
SF6	Sulfur hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
SO2	Sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
UDEQ	Utah Department of Environmental Quality
UEPA	Utility Environmental Protection Act
UNLV	University of Nevada, Las Vegas
U.S.C.	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
VOC	volatile organic compound

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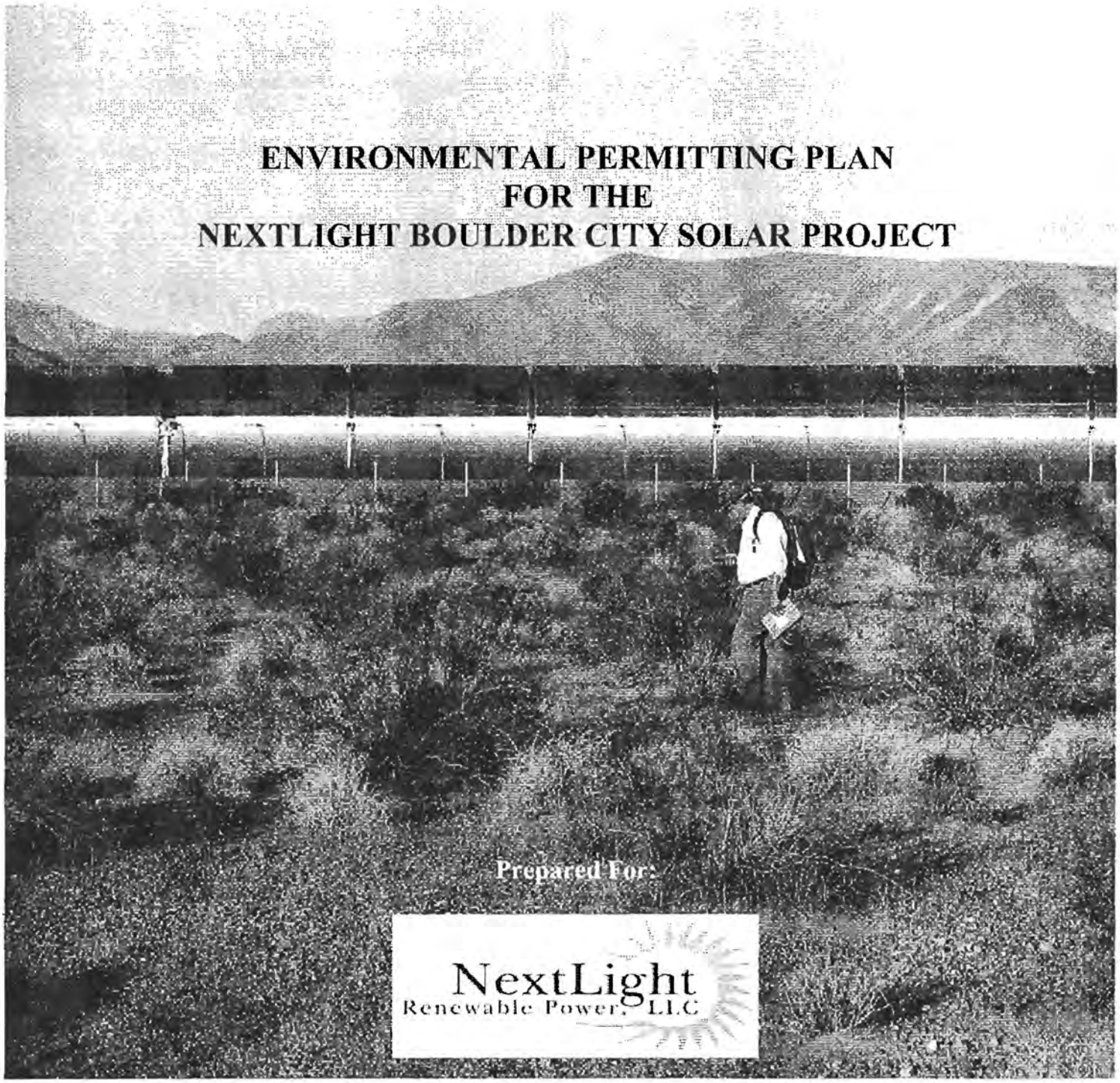
APPENDIX A
ENVIRONMENTAL PERMITTING PLAN

ENVIRONMENTAL PERMITTING PLAN
FOR THE
NEXTLIGHT BOULDER CITY SOLAR PROJECT



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October 2009

Table of Contents

A. EXECUTIVE SUMMARY

The objective of this evaluation was to determine if there were any environmental permitting "fatal flaws" and none were identified. For the permits identified and evaluated there were no issues beyond those normally associated with a project of this size. No special difficulties are anticipated.

The elements of the proposed project that were considered in this evaluation included the following:

- Development of a 150 MW photovoltaic solar facility
- Connection to the electrical grid
- Transportation (roads serving the proposed facility and traffic interruption on US Interstate 95)

To ensure that a thorough and comprehensive assessment of the environmental permits was completed, every potential permit identified was included and evaluated, including many permits that are not strictly environmental.

To accomplish this assessment, the proposed development activities were reviewed to determine environmental permits and approvals that must be completed prior to development. Agencies were contacted to ascertain or confirm regulatory requirements, submittal conditions, agency review times, and costs.

This report contains the conceptual description of the proposed action, followed by a discussion of the key environmental permits and approvals. This is followed by a summary conclusion, a list of the permits identified, and an Appendix with detailed permit information.

B. PROJECT DESCRIPTION

The project area includes approximately 1,130 acres of city-owned property located in Eldorado Valley, Nevada. For the purposes of this analysis, project elements on city, state, and federal property were considered. NextLight Renewable Power, LLC (NextLight) proposes to construct, own, and operate a 150-megawatt (MW) solar photovoltaic (PV) power generation facility on land owned and administered by the city of Boulder City. The project is designed to meet the increasing demand for clean, renewable, electrical power. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, and contributes to the reduction of greenhouse gas emissions. Solar energy development is also consistent with Federal policies including Executive Order 13423. This Order establishes as policy of the United States that Federal agencies conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

The development on city-owned lands could involve construction of some or all of the following elements:

- Modular photovoltaic solar panels
- Single-axis tracker systems or stationary PV panels mounted on cement ballasts that sit directly on the ground, or driven piles about 15 feet deep, or embedded foundations
- Direct current to alternating current power inverters mounted on concrete pads
- Three-phase pad mounted transformers that step up the voltage output of each inverter to 34.5 kilovolts (kV)
- One or more 34.5 kV to 230 kV step up transformers connected to one or both of two nearby substation; Nevada Solar One Substation, approximately 1 mile to the west of the site, and Merchant Substation, approximately 1.5 miles to the west.

The PV modules will convert sunlight into DC electricity. Approximately 1 to 3 MW of DC power will be collected from each of the multiple rows of PV modules through one or more combiner boxes and conveyed to an inverter. The inverter will convert the DC power to AC power, which then flows to a medium-level transformer that converts the output of the inverter to 34.5 kV. Multiple medium-level transformers will be connected in parallel in a daisy chain configuration and collected at the Project substation, where the power will be stepped up to 230 kV for delivery to the transmission system grid.

C. CLEAN WATER ACT

The project site is isolated from wetlands and waters of the United States. Therefore obtaining a permit from the U.S. Army Corps of Engineers Corps project would not be warranted.

Two federal statutes mandate the U.S. Army Corps of Engineers (Corps) jurisdiction over navigable waterways and adjacent wetlands. These are Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act applies to all navigable waters of the United States and Section 404 of the Clean Water Act applies to all waters including wetlands that have sufficient nexus to interstate commerce. Section 404 specifically regulates the placement of dredged or fill material into all waters of the U.S. and adjacent wetlands. Waters of the U.S. includes navigable water and tributaries that often include ephemeral dry desert washes.

Examination of aerial photographs and field reconnaissance indicate that all of the surface water in the project vicinity drains into the Eldorado Dry Lake located north of the project area. The dry lake is at the low area of a closed basin and therefore none of the surface flow drains into navigable waters (waters of the U.S.). Jurisdictional waters or wetlands would not be affected by the project therefore Corps jurisdiction does not apply.

D. ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) of 1973, as amended, provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered with extinction. Section 10 of the ESA includes provisions to address protected species on private property. In compliance

Known and potential habitat for desert tortoise, a federally protected species, occurs within the project area. The processes for addressing effects on these species are well developed and well understood in southern Nevada. It is anticipated the proposed project could be approved in the standard manner using standard processes.

with Section 10, development effects on terrestrial species on non-federal lands have already been addressed in the Clark County Multispecies Habitat Conservation Plan (MSHCP). The MSHCP includes 79 species and allows for development after paying a per acre fee. For example, habitat potentially suitable for the desert tortoise (*Gopherus agassizii*) occurs on the project site and adjacent federal lands. Payment of a $550 per acre fee, assessed when obtaining grading permits, serves as an ESA Section 10 approval to disturb desert tortoise and any of 78 other species that could occur on the site.

Through the MSHCP the USFWS has determined that protection of desert tortoise on private property could be addressed by collection of a per-acre fee.

E. NATIONAL HISTORIC PRESERVATION ACT

Conservation of cultural resources would be voluntary as the project is located on private property and a federal nexus requiring compliance with Section 106 of the National Historic Preservation Act (NHPA) has not been identified.

The National Historic Preservation Act (NHPA) specifies that federal agencies must take into account the effects of their actions on historic places, that is places included in or eligible for inclusion in the National Register of Historic Places (NRHP), and the agency must allow the Advisory Council on Historic Preservation, agency representatives, and other interested parties the opportunity to comment regarding the proposed action (36 CFR Part 800). These regulations apply to projects, activities, or programs funded in whole or in part under the direct or indirect jurisdiction of a federal agency.

To evaluate archaeological impacts of a project, literature reviews and field investigations are conducted to record and evaluate archaeological and historical sites within the Area of Potential Effect. Once the resources are identified and recorded, they can be evaluated for eligibility to the NRHP in accordance with the guidelines provided in 36 CFR 60.4. The NRHP criteria stipulate that sites must be assessed for integrity of location, design, setting, materials, workmanship, feeling, and association. A site may be considered eligible for the NRHP if it retains sufficient integrity of the elements above and if it:

- Is associated with events that have made a significant contribution to the broad patterns of our history, or
- Is associated with the lives of persons significant in our past, or
- Embodies the distinction characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction, or

- Yields, or may be likely to yield, information important in prehistory or history.

The project site was evaluated using the above-described methodology.

F. NATIONAL ENVIRONMENTAL POLICY ACT

NEPA compliance is not warranted because the project is located on lands administered by a local government entity (Boulder City), does not require federal lands, federal permits or approvals, and does not involve federal funding.

The National Environmental Policy Act (NEPA) of 1969, as amended, requires the federal government to consider the effect of its decisions on the natural and human environment. The decisions that could require NEPA in this project include the decision to issue a 404 permit by the Corps, or the need for a right of way traversing federal lands.

NEPA procedures are designed to ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences and take actions that protect, restore, and enhance the environment.

Under NEPA, projects typically require either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). An EA is intended to be a concise document that contains a brief discussion of the need for the proposal, alternatives to the proposal, the environmental impacts of the proposed action and alternatives, mitigation measures designed to reduce potential impacts to an acceptable level, and a list of agencies, and persons consulted. An EIS is a more detailed evaluation of the proposed action and alternatives and has a much more robust and proscribed public process.

G. UTILITY ENVIRONMENTAL PROTECTION ACT (UEPA)

The UEPA requires that the proponent submit an environmental statement which includes:

- A demonstration of the nature of the probable effect on the environment, after mitigation, if the proposed utility facility is constructed (NAC 703.420(4));
- A demonstration that the proposed utility facility represents the minimum adverse effect on the environment considering the state of available technology and the nature and economics of the various alternatives (NAC 703.420(4));
- An evaluation and comparison of all reasonable alternative locations and all reasonable designs for the proposed utility facility that includes:
    1 A description of the environmental characteristics of the region in sufficient detail to provide an understanding of the environment existing when the application is made and the impact that each alternative would have on that environment. The data and analyses in the description must be commensurate with the significance of the anticipated impacts (NAC 703.420(4)(a)).

2 An evaluation of the significant effects on the quality of the environment for humans, significant environmental impacts, the means to mitigate adverse environmental impacts and, as appropriate, the requirements for energy and natural or nonrenewable resources (NAC 703.420(4)(b)).
3 A list of the reasons that the primary location and design selected by the applicant are best suited for the proposed utility facility (NAC 703.420(4)(c)).

- A list and summary of all studies that have been made of the environmental impact of the proposed utility facility and its alternatives (NAC 703.420(4)(d)).
- A copy of every study must be included for public inspection (NRS 703.870(1)(c)).

H. OTHER REVIEWS AND APPROVALS

The project activities will require federal, state, county, and utility reviews that are conducted by agencies well experienced with evaluating project impacts from construction and operation.

To ensure a thorough and comprehensive assessment of the environmental permits is completed, numerous potential permits were identified and evaluated, including many permits that are not strictly environmental. For example, utility coordination to avoid potential conflicts is prudent but not specifically an environmental permit.

This information on each permit was compiled and individual permit profiles were developed. Appendix A contains a detailed description of each permit. State and local permits and utility coordination were evaluated in addition to the primary federal environmental permits associated with the Clean Water Act, Endangered Species Act, National Historic Preservation Act, the National Environmental Policy Act, and the Utility Environmental Protection Act, as discussed earlier. Permission to enter and encroach on private land should also be obtained from the private landowner; however, a specific permit is not required.

I. SUMMARY

Numerous federal, state, county, and utility requirements were researched to determine applicability to the project and further determine whether any would have an undue effect the progress of the project. The results represent a best effort to determine the required permits and the application processes. Many of these permits are not specifically environmental; however, they were evaluated to ensure a comprehensive effort. This evaluation of the proposed NextLight Boulder City Solar Project determined that the suite of required environmental and regulatory approvals is typical and well understood for projects of this nature in southern Nevada. This evaluation specifically focused on determining if there were any permits that could not be obtained and would prevent project progress and none were identified.

Table 1 lists the permits evaluated. While this list may not be inclusive of every permit the proposed project may require, it includes the environmental permits identified as well as many of the water, utility, and construction permits. Appendix A contains detailed information about

each permit such as the regulatory context, key contact address and phone number, submittal requirements, typical agency processing times, and application fees.

Table 1. Permits and Approvals Evaluated and Likely to be Required

FEDERAL PERMITS REQUIRED
Endangered Species Act Compliance - U.S. Fish and Wildlife Service Endangered Species Act Section 10 Consultation
FEDERAL PERMITS EVALUATED AND DETERMINED NOT TO BE REQUIRED
Clean Water Act Compliance - U.S. Army Corps of Engineers Clean Water Act Section 404 Permit
National Historic Preservation Act Compliance - Nevada State Historic Preservation Office Concurrence of Section 106 National Historic Preservation Act of 1966
National Environmental Policy Act Compliance - U.S. Bureau of Land Management National Environmental Policy Act Finding Of No Significant Impact or Record of Decision
STATE PERMITS REQUIRED
Utilities Environmental Protection Act
Nevada Division of Wildlife Scientific Collection Permit
Nevada Division of Environmental Protection National Pollutant Discharge and Elimination System General Stormwater Permit for construction Activities
Nevada Department of Transportation Right-of-Way Encroachment Permit
Nevada Department of Transportation Traffic Barricade Plan Approval
Nevada State Hazardous Material Permit or Roving Permit
COUNTY PERMITS REQUIRED
Clark County Dust Control Permit
Clark County Multiple Species Habitat Conservation Plan Compliance
UTILITY SERVICES COORDINATION REQUIRED
AT&T Coordination
NV Energy Coordination
Sprint Coordination
Southwest Gas Coordination
OTHER APPROVALS REQUIRED
Encroachment and Occupancy Approval from Private Owners

APPENDIX A

PERMIT DETAILS

TABLE OF CONTENTS

FEDERAL PERMITS

1.0 NATIONAL ENVIRONMENTAL POLICY ACT PROJECT APPROVAL

Need

National Environmental Policy Act (NEPA) review is needed for federal actions pursuant to 40 CFR Parts 1500-1508. However, any non-federal action may become subject to NEPA requirements when a federal agency issues a permit, provides funding, or makes a regulatory decision affecting a project.

A proposed alignment across Bureau of Land Management (BLM) land or in BLM Right-of-Way requires NEPA compliance. Similarly application for Department of Energy Loan Guarantee program would trigger preparation of a NEPA document, an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). Agency coordination is required for all NEPA processes and documentation. Public involvement is required for some EAs and for all EISs.

Agency Name and Address

U.S. Bureau of Land Management
Division of Lands
4701 N. Torrey Pines Dr.
Las Vegas, NV 89130-2301
Contact: Jeff Steinmetz, Assistant Field Manager
Phone: 702-515-5097, Fax: 702-515-5023

Forms and Submittals

Submit a project description to the lead agency (in this case, the BLM). The lead agency determines whether the project is subject to NEPA requirements. If a project is not subject to NEPA requirements, a Categorical Exclusion is prepared. If the project is subject to NEPA requirements, an environmental document [either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS)] is prepared. An environmental document is needed for the lead agency to approve or deny a project. The basic principles in preparing a NEPA document include:

- Full and open disclosure of potential impacts
- An interdisciplinary approach to project evaluation
- A focus on key issues relating to agency decisions
- Objective consideration of reasonable alternatives
- Application of measures to avoid, mitigate, or compensate for project impacts
- Encouragement of public participation
- Interagency coordination and consultation

The following resources must be addressed in the environmental document:

Air Quality	Vegetation	Soils	Cultural Resources	Visual Resources	Socioeconomics
Geology	Wildlife	Hydrology	Recreation	Land Use	Indian Trust Assets

Scheduling

The amount of time for a lead agency's decision on a project varies, depending on the project's complexity, the issues of concern to the lead agency, the level of public controversy, and the significance of impacts resulting from the project. For preparation, agency coordination and agency approval, an EA requires 8 - 14 months. An EIS requires 14 to 24 months or longer for more complex projects.

Fees

N/A

Additional Information

N/A

FEDERAL PERMITS (continued)

2.0 U.S. ARMY CORPS OF ENGINEERS CLEAN WATER ACT SECTION 404 PERMIT

Need

Note – it was determined this permit would not be required for this project

Section 404 of the Clean Water Act provides that the discharge of dredged/fill materials into waters of the United States requires a Section 404 Permit. Waters of the United States include navigable waters as well as jurisdictional wetlands and ephemeral washes that drain into waters of the United States, all of which are under the jurisdiction of the U.S. Army Corps of Engineers. Ephemeral washes exhibit defined bed and bank characteristics, referred to as the ordinary high water mark. Jurisdictional wetlands are areas that meet the three mandatory criteria outlined in the 1987 Corps Delineation Manual. These criteria are the presence of hydric soils, wetland vegetation, and wetland hydrology. A jurisdictional determination is required.

Agency Name and Address

U.S. Army Corps of Engineers
321 N. Mall Drive, Suite L101
St. George, UT 84790-7314
Contact: Patricia McQueary, Chief Regulatory Officer, Utah Regulatory Office
Phone: 435-986-3979

Forms and Submittals

Project proponent will submit an application package including the following:

- Form ENG 4345, "Application for Department of the Army Permit
- Report on findings on the extent of waters of the US (Jurisdictional Determination)
- Project-specific Environmental Analysis
- Alternatives Analysis
- Vicinity map
- Plan View or cross-section of development plan
- Mitigation plan
- Construction schedule
- Addresses of adjoining property owners

Additionally, compliance with Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act, as well as a Water Quality Certification pursuant to Section 401 of the CWA and are required before disturbance.

Scheduling

An Individual Permit may take between 7 to 18 months to obtain
A Nationwide Permit may take between 2 to 8 months to obtain

Fees

N/A

Additional Information

A pre-application meeting is strongly recommended between project proponent, U.S. Army Corps, and other involved parties to assess needs, goals, and extent of permit.

FEDERAL PERMITS (continued)

3.0 U.S. FISH AND WILDLIFE SERVICE ENDANGERED SPECIES ACT SECTION 10 CONSULTATION

Need

Consultation with the U.S. Fish and Wildlife Service is required for any potential direct or indirect impacts to federally listed Threatened and Endangered Species and/or associated habitat. A county-wide Multispecies Habitat Conservation Plan (MSHCP) was completed under Section 10 of the Endangered Species Act with the U.S. Fish and Wildlife Service (USFWS) and addresses 79 species located on private property in Clark County.

Agency Name and Address

U.S. Fish and Wildlife Service
4701 Torrey Pines Dr.
Las Vegas, NV 89130-2301
Contact: Janet Bair, Assistant Field Supervisor
Phone: 702-515-5230, Fax: 702-515-5231

Forms and Submittals

See scheduling and fees, below.

Scheduling

Permit pulled by Contractor just prior to beginning construction.

Fees

Construction contractor to pay desert tortoise fees of $550/acre when pulling grading permit.

Additional Information

Migratory Bird Treaty Act compliance is also administered by USFWS and the MSHCP does not automatically ensure compliance. For example, Burrowing Owls occur at the site and the Treaty Act protects the birds, their nests, and prohibits activities that cause birds to leave nests. It does not protect habitat. As discussed in the Biological Evaluation, clearing owl burrows in the non-breeding season ensures compliance with the Treaty Act and does not specifically require consultation with USFWS.

FEDERAL PERMITS (continued)

4.0 NEVADA STATE HISTORIC PRESERVATION OFFICE CONCURRENCE OF SECTION 106 NATIONAL HISTORIC PRESERVATION ACT OF 1966

Need Consultation with SHPO Not Required on Private Property

The Nevada State Historic Preservation Office (SHPO) administers Section 106 of the National Historic Preservation Act of 1966. This section requires that projects take into account the potential effects of their undertakings on historic properties. Historic properties include archeological and historical sites, normally over 50 years old, listed on or deemed eligible for listing on the National Register of Historic Places. Projects that receive any federal funding, are located on federal lands, or require federal permits are subject to Section 106 requirements (for the entire project, unless such requirements are specifically waived).

Agency Name and Address

State of Nevada Historic Preservation Office
100 N. Stewart Street, Capitol Complex
Carson City, NV 89701-4285
Contact: Rebecca Palmer or Alice M. Baldrica, Deputy State Historic Preservation Officer, Planner, and Archaeologist
Phone: 775-684-3444, Fax: 775-684-3442

Forms and Submittals

Complete the following tasks:

- Contact the lead agency (in this case the BLM) to determine what information the agency will require.
- Apply for a permit from the lead agency to allow access to lands where the project would be located for cultural resources survey fieldwork.
- A cultural resources report must be submitted to the lead federal agency by a qualified cultural resources specialist.

The lead agency will review the cultural resources report and consult with SHPO for concurrence. SHPO's review and approval is required prior to the construction activity.

Scheduling

Preparation of the cultural resources report varies depending on the amount of fieldwork required. Once the lead agency submits the cultural resources report to SHPO, a 30 day review period begins. Approval will be communicated to the lead agency. SHPO may request additional information or not concur with the report. SHPO receives an additional 30 day review period after each resubmittal.

Fees

N/A

Additional Information

The cultural resources report should follow the *Guidelines for Section 106 Submissions to the Nevada State Historic Preservation Office.* There is no standard application form for the cultural resources report. Complete the cultural resources report prior to completion of the NEPA document or 404 Permit, and incorporate the findings from the report into the NEPA document, or the 404 Permit Environmental Analysis.

FEDERAL PERMITS (continued)

5.0 U.S. BUREAU OF LAND MANAGEMENT RIGHT-OF-WAY TEMPORARY USE PERMIT

Need No Need for this Permit as No Affected BLM Lands have been Identified.

The BLM requires a Temporary Use Permit for short-term use of BLM land or BLM Right of Way.

Agency Name and Address

U.S. Bureau of Land Management
Division of Lands
4701 N. Torrey Pines Dr.
Las Vegas, NV 89130-2301
Contact: Jeff Steinmetz, Assistant Field Manager
Phone: 702-515-5097, Fax: 702-515-5023

http://www.blm.gov/nhp/what/lands/realty/forms/299/index.html

Forms and Submittals

Submit a BLM SF 299 Application. Attendance at a pre-application meeting is required.

Scheduling

The BLM could take between 60 to 90 days to review the SF 299 application and issue a permit.

Fees

Project specific

Additional Information

N/A

FEDERAL PERMITS (continued)

6.0 U.S. BUREAU OF LAND MANAGEMENT RIGHT-OF-WAY GRANT

Need No Need for this Permit as No Affected BLM Lands have been Identified.

The BLM issues a Right-of-Way Grant for long-term use of BLM lands. Issuance is required before construction notice to proceed and is dependent upon approval of all permits and the FONSI or record of decision for a National Environmental Policy Act document.

Agency Name and Address

U.S. Bureau of Land Management
Division of Lands
4701 N. Torrey Pines Dr.
Las Vegas, NV 89130-2301
Contact: Jeff Steinmetz, Assistant Field Manager
Phone: 702-515-5097, Fax: 702-515-5023

http://www.blm.gov/nhp/what/lands/realty/forms/299/index.html

Forms and Submittals

Submit the following:

- BLM SF 299 application
- Plan of Development with legal descriptions and alignment drawings
- Project-specific Analysis Report
- EA or EIS decision record

Scheduling

The BLM could take between 60 to 90 days to review the application submittals and issue a grant.

Fees

Project specific

Additional Information

N/A

STATE PERMITS

7.0 NEVADA UTILITY ENVIRONMENTAL PROTECTION ACT

NEED

1. The Nevada Legislature has declared that:

(a) There is at present and will continue to be a growing need for electric, gas and water services which will require the construction of new facilities. It is recognized that such facilities cannot be built without in some way affecting the physical environment where such facilities are located.

(b) It is essential in the public interest to minimize any adverse effect upon the environment and upon the quality of life of the people of the State which such new facilities might cause.

(c) Present laws and practices relating to the location of such utility facilities should be strengthened to protect environmental values and to take into account the total cost to society of such facilities.

(d) Existing provisions of law may not provide adequate opportunity for natural persons, groups interested in conservation and the protection of the environment, state and regional agencies, local governments and other public bodies to participate in proceedings regarding the location and construction of major facilities.

2. The Legislature, therefore, hereby declares that it is the purpose of NRS 704.820 to 704.900, inclusive, to provide a forum for the expeditious resolution of all matters concerning the location and construction of electric, gas and water transmission lines and associated facilities.

(Added to NRS by 1971, 554; A 1985, 2051; 1997, 489, 1914)

Agency Name and Address

Public Utilities Commission Of Nevada
1150 E. William Street
Carson City, NV 89701-3109
Phone: 775 684-6171, Fax: 775 684-6110
http://pucweb1.state.nv.us/PUCN/PUCHome.aspx

Forms and Submittals

A person or company who wishes to obtain a permit for a utility facility must file with the Commission an application, in such form as the Commission prescribes, containing:

(a) A description of the location and of the utility facility to be built thereon;

(b) A summary of any studies which have been made of the environmental impact of the facility; and

(c) A description of any reasonable alternate location or 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 primary proposed location is best suited for the facility.

➥ A copy or copies of the studies referred to in paragraph (b) must be filed with the Commission and be available for public inspection.

Scheduling

The Public Utilities Commission could take between 30 to 90 days to issue a UEPA permit after the application packet is received.

Fees

None

Additional Information

N/A

STATE PERMITS (continued)

8.0 NEVADA DIVISION OF ENVIRONMENTAL PROTECTION NATIONAL POLLUTANT DISCHARGE AND ELIMINATION SYSTEM GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES

Need

A General Stormwater Permit for Construction Activities is required for construction activities that will disturb one acre or greater and will discharge storm water runoff from the construction site into a municipal separate storm water sewer system or into waters of the United States as defined by Section 404 of the Clean Water Act.

Agency Name and Address

Nevada Division of Environmental Protection
Bureau of Water Pollution Control
555 E. Washington, Suite 4300
Las Vegas, NV 89101
Phone: 775-687-4670 extension 3139, Fax: 775-687-5856

http://www.epa.gov/npdes/pubs/connoi.pdf
http://www.epa.gov/npdes/pubs/dmr.pdf
http://ndep.state.nv.us/bwpc/instruct.pdf
http://ndep.nv.gov/bwpc/forms.htm

Forms and Submittals

Submit the following materials prior to construction:

- Notice of Intent, which provides general information
- General Stormwater Permit NVR100000 application
- Stormwater Pollution Prevention Plan, that describes how the applicant intends to control runoff from the construction site

Upon project completion, contractor will submit a Notice of Termination.

Scheduling

Permit may take between 1 to 2 weeks to obtain from receipt of the Notice of Intent. Permit issuance is required prior to construction/discharge activities. Preparation of a Stormwater Pollution Prevention Plan is required.

Fees

$200.00 application fee and a $200.00 processing fee apply.

Additional Information

Permit duration is one year. To renew permit, an additional $200 application fee is required (no need to resubmit Notice of Intent).

STATE PERMITS (continued)

9.0 NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) RIGHT-OF-WAY (ROW) ENCROACHMENT PERMIT

Need

NDOT requires this permit for construction activities within the NDOT ROW. Notify NDOT early and have application in when 90 percent of design is complete. A Traffic Barricade Plan must be completed. One application per NDOT ROW is required and must be obtained prior to construction activities within NDOT ROW.

Agency Name and Address

Nevada Department of Transportation
District I, P.O. Box 170, 123 E. Washington Ave
Las Vegas, NV 89125
Phone: 702-385-6509

Forms and Submittals

Design phase: 100 percent design drawings. Project proponent is responsible for submittals during design phase.

Construction phase: An application package is required. This package includes the application, an NAC 408 compliance letter, design drawings, and an address of NDOT pavement replacement. Contractor is responsible for submittals during construction phase.

Scheduling

14 to 60 days (or longer depending on scope of work)

Fees

$200.00 per application

Additional Information

N/A

STATE PERMITS (continued)

10.0 NEVADA DIVISION OF WILDLIFE SCIENTIFIC COLLECTION PERMIT

Need

The Division of Wildlife requires a Scientific Collection Permit for disturbance of wildlife and/or wildlife habitat for the entire project pursuant to Nevada Revised Statutes 503.597 and 503.650. The permit is required prior to the handling of any State-listed sensitive species. This permit is not specific to endangered species.

Agency Name and Address

Nevada Division of Wildlife
4600 Kietzke Ln., D135
Reno, NV 89502
Phone: 775-688-1512, Fax: 775-688-1509
http://www.ndow.org/about/license/special.shtm

Forms and Submittals

A biological survey within the project area is required. Other information required includes project alignment, area of disturbance, and the state-listed species to be disturbed.

Scheduling

Permit normally take between 21 to 45 days to issue. Obtain Nevada Division of Wildlife's review of the project early in the project design process. Nevada Division of Wildlife will work with the applicant to develop mitigation if impacts to wildlife species are expected. Early review may help reduce impacts to wildlife species.

Fees

One year permit: $50.00
Two year permit: $100.00

Additional Information

N/A

STATE PERMITS (continued)

11.0 NEVADA STATE HAZARDOUS MATERIAL PERMIT OR ROVING PERMIT

Need

Required for storage of flammable liquid of 5 or more gallons inside or 10 or more gallons outside and for combustible liquid of 10 or more gallons inside or 25 or more gallons outside for over 30 days. A Roving Permit is needed if the tanks would be moved. The Hazardous Material Permit is required for onsite fuel storage during construction activities. The Roving Permit is required if storage tanks are moved to different staging areas as construction progresses.

Agency Name and Address

Nevada Department of Motor Vehicles and Public Safety
Nevada State Fire Marshall Division
107 Jacobsen Way
Stewart Facility
Carson, City, NV 89710
Phone: 775-687-4290, Fax: 775-687-5122

Forms and Submittals

Project proponent will submit notification during construction phase

Scheduling

2 weeks

Fees

$150.00 per facility up to 2,000 pounds of fuel and $250.00 if over 2,000 pounds of fuel

Additional Information

N/A

12.0

STATE PERMITS (continued)

13.0 NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) TRAFFIC BARRICADE PLAN APPROVAL

Need

The NDOT Right-of-way Encroachment Permit requires the Contractor to submit a Traffic Barricade Plan. A Traffic Barricade Plan must be prepared and approved prior to construction within NDOT right-of-way.

Agency Name and Address

Nevada Department of Transportation
District I
P.O. Box 170
123 E. Washington Ave
Las Vegas, NV 89125
Phone: 702-385-6510

Forms and Submittals

Contractor will submit a Traffic Barricade Plan during construction phase.

Scheduling

16 to 30 days

Fees

None

Additional Information

N/A

14.0 COUNTY PERMITS

15.0 CLARK COUNTY DUST CONTROL PERMIT

Need

In accordance with Clark County Department of Air Quality Management regulations, a Dust Control Permit is required for any grading or land-disturbance activities within Clark County, Nevada.

Agency Name and Address

Clark County Department of Air Quality Management
500 S. Grand Central Pkwy
P.O. Box 551776
Las Vegas, NV 89155-1776
Phone: 702-455-5942 Fax: 702-383-9994

Forms and Submittals

Submit the following materials prior to construction:

- Application for Dust Control Permit
- Location map
- Dust Mitigation Plan

This permit is required for construction activities in Clark County, Nevada impacting greater than 0.5 acre or 100 feet of trench. A sign must be displayed prior to construction per 17.5.1.6 Clark County Department of Air Quality Management regulations.

Scheduling

The Department of Air Quality Management may take up to 7 days to issue a permit.

Fees

$109.00 per disturbed acre

Additional Information

Permits are issued for up to one year from date received. If project continues over one year, applicant must reapply for a new permit before the existing permit expires for disturbance on the remaining acreage.

COUNTY PERMITS (continued)

UTILITY COORDINATION

16.0 AT&T COORDINATION

Need

Construction activity requires review of project location by utilities to avoid construction conflicts. Must prepare preliminary project design drawing.

Agency Name and Address

ATT, Fiber Optics Division
775 E. Tropicana Ave.
Las Vegas, NV 89119
Phone: 702-736-3470

Forms and Submittals

Design engineer will submit Preliminary design drawing with project location during design phase.

Scheduling

21 days

Fees

None

Additional Information

N/A

UTILITY PERMITS (continued)

17.0 NEVADA ENERGY COORDINATION

Need

Construction activity requires review of project location by utilities to avoid construction conflicts. Must prepare preliminary project design drawing.

Agency Name and Address

Nevada Energy
Las Vegas District
2215 E. Lone Mountain Road
North Las Vegas, NV 89031
Phone: 702-252-4800

Forms and Submittals

Design engineer will submit Preliminary design drawing with project location during design phase.

Scheduling

21 days

Fees

None

Additional Information

N/A

UTILITY PERMITS (continued)

18.0 SPRINT COORDINATION

Need

Construction activity requires review of project location by utilities to avoid construction conflicts. Prepare preliminary project design drawing. For telephone service, prepare 60 percent design drawings. Sprint will design the telephone facilities.

Agency Name and Address

Sprint
330 S. Valley View Blvd.
Las Vegas, NV 89107
Phone: 702-244-7991 Fax: 702-244-6466

Forms and Submittals

Design engineer will submit a preliminary design drawing or 60 percent design drawing if telephone service is required during design phase.

Scheduling

21 days

Fees

None

Additional Information

N/A

UTILITY PERMITS (continued)

19.0 SOUTHWEST GAS COORDINATION

Need

Construction activity requires review of project location by utilities to avoid construction conflicts. Must prepare preliminary project design drawing.

Agency Name and Address

Southwest Gas
4300 W. Tropicana Ave.
Las Vegas, NV 89193
Phone: 702-365-2008
702-365-2056

Forms and Submittals

Design engineer will submit Preliminary design drawing with project location during design phase.

Scheduling

21 days

Fees

None

Additional Information

N/A

APPENDIX B

BIOLOGICAL EVALUATION REPORT

BIOLOGICAL EVALUATION
NEXTLIGHT BOULDER CITY SOLAR PROJECT
CLARK COUNTY, NEVADA

Prepared for:

NextLight
Renewable Power, L.L.C

Prepared by:

NEWFIELDS

8250 West Charleston Boulevard, Suite 100
Las Vegas, NV 89117

October 2009

Table of Contents

Section **Page**

List of Figures

List of Tables

1.0 INTRODUCTION

The purpose of this Biological Evaluation (BE) is to evaluate the potential effects of the proposed NextLight Boulder City Solar Project on federal, state or regionally protected plants and animals. It is intended to establish Section 10 compliance of the Endangered Species Act (ESA) of 1973. This BE will also help determine compliance within the terms and conditions of the Clark County Multiple Species Habitat Conservation Plan (MSHCP). The desert tortoise is the single federal ESA protected species in the project area and has been classified as being threatened with extinction.

It has been determined in this BE that potential impacts to the desert tortoise and its designated critical habitat would be reduced to an acceptable level with the adoption of the mitigation measures and compliance with the terms and conditions of the MSHCP. Therefore, impacts of the Proposed Action would be acceptable.

2.0 PROPOSED ACTION

The project area includes approximately 1,130 acres of city-owned property located in Eldorado Valley, Nevada. For the purposes of this analysis, project elements on city, state, and federal property were considered. NextLight Renewable Power, LLC (NextLight) proposes to construct, own, and operate a 150-megawatt (MW) solar photovoltaic (PV) power generation facility on land owned and administered by the city of Boulder City. The project is designed to meet the increasing demand for clean, renewable, electrical power. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, and contributes to the reduction of greenhouse gas emissions. Solar energy development is also consistent with Federal policies including Executive Order 13423. This Order establishes as policy of the United States that Federal agencies conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

The development on city-owned lands could involve construction of some or all of the following elements:

- Modular photovoltaic solar panels
- Single-axis tracker systems or stationary PV panels mounted on cement ballasts that sit directly on the ground, or driven piles about 15 feet deep, or embedded foundations
- Direct current to alternating current power inverters mounted on concrete pads
- Three-phase pad mounted transformers that step up the voltage output of each inverter to 34.5 kilovolts (kV)
- One or more 34.5 kV to 230 kV step up transformers connected to one or both of two nearby substation; Nevada Solar One Substation, approximately 1 mile to the west of the site, and Merchant Substation, approximately 1.5 miles to the west.

The PV modules will convert sunlight into DC electricity. Approximately 1 to 3 MW of DC power will be collected from each of the multiple rows of PV modules through one or more combiner boxes and conveyed to an inverter. The inverter will convert the DC power to AC

power, which then flows to a medium-level transformer that converts the output of the inverter to 34.5 kV. Multiple medium-level transformers will be connected in parallel in a daisy chain configuration and collected at the Project substation, where the power will be stepped up to 230 kV for delivery to the transmission system grid.

2.1 Project Location

As shown on Figure 1, the project area is located on U.S. Geological Survey 7.5 minute quadrangle maps, including:

Boulder City SW: Sections 5, 6, and 8 of Township 25 South, Range 63 East. Sections 31 and 32 of Township 24 South, Range 63 East. Sections 1 and 12 of Township 25 South, Range 62 East.

3.0 INVESTIGATION METHODS

3.1 Survey Preparation

Prior to investigation, species of concern were identified through literature searches. The desert tortoise is the only species in the project area listed as a federally threatened or endangered with a classification of federally threatened.

3.2 Tortoise Surveys (100 Percent Coverage)

During October of 2009, biologists experienced with regional and local resources conducted botanical and wildlife surveys within the project alignment (Figure 1) in accordance with USFWS protocols. The survey area was located using topographical maps, aerial photographs, and global positioning system (GPS) coordinates. Physical landmarks such as roads, surveyor markers, cadastrals, existing transmission lines, solar power plants and substations were also used to orient the survey.

The objective of the field surveys was to obtain a comprehensive sample of the tortoise population density within the project area. Biologists surveyed the proposed project area by using 10-meter (33-foot) wide parallel transects. Within the proposed powerline corridors a minimum of 40-meters (132-feet) were surveyed on each side of the proposed center line. Flagging was placed at regular intervals along the outside survey line to ensure that transect lines remained straight and surveyed area was fully covered. Upon return, the flagging was removed. Over 1,200 acres were surveyed using this standard USFWS "100 percent coverage" method.

Observations of tortoise sign (live tortoises, carcasses, shell, bones, scute, scat, burrows, pallets, tracks, egg shell fragments, etc.) were recorded using, data sheets, a Canon PowerShot A1100IS, a Garmin Etrex Legend C GPS and a Garmin GPSmap 60CSx GPS.

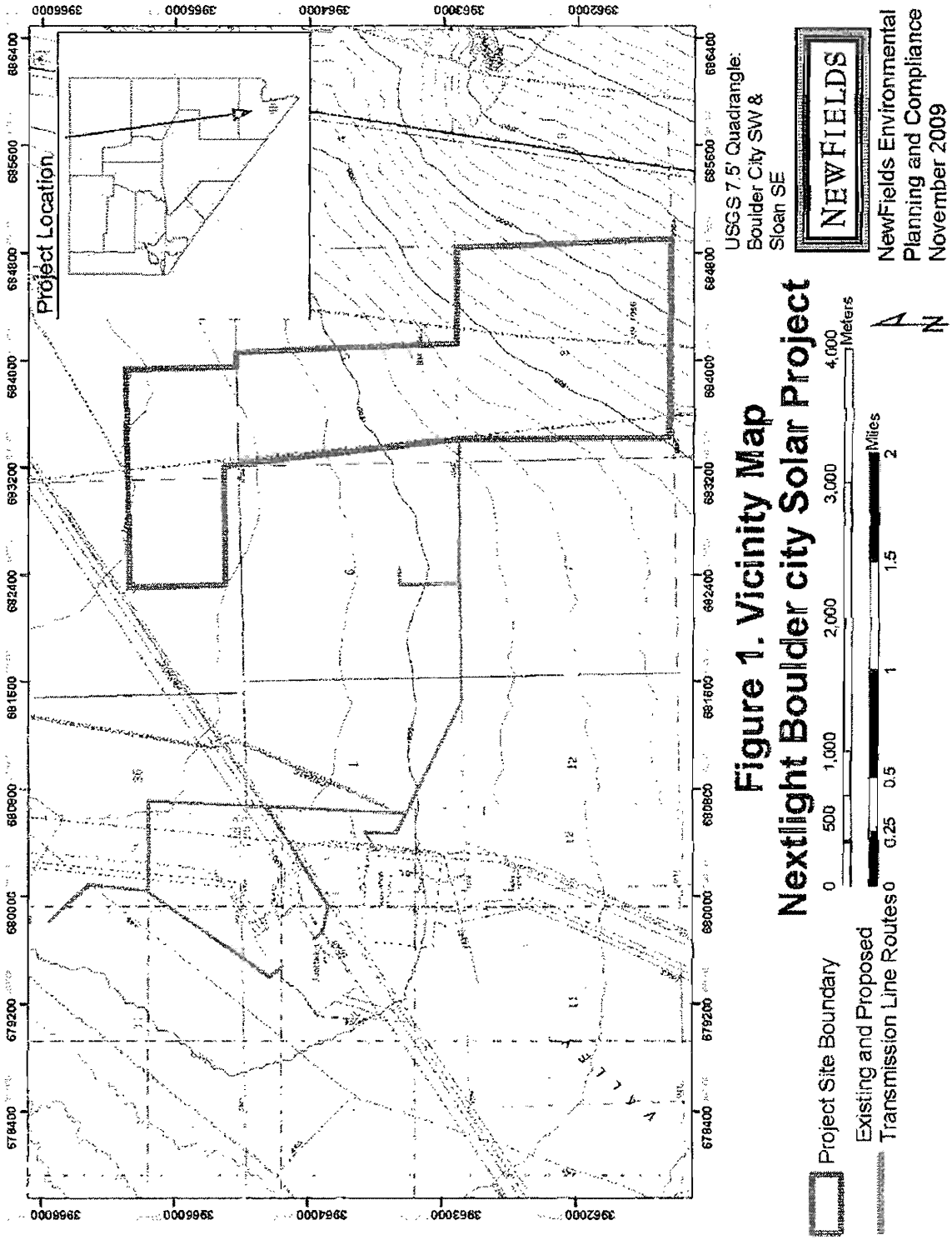

Figure 1. Project Vicinity

3.3 Tortoise Observed Density Estimations

To estimate population and density of desert tortoise within the proposed project area, a linear regression model developed by Berry and Nicholson (1984) was used. This model evaluated triangular strip transects (applies corrected sign to estimate the relative population densities of desert tortoises. Corrected sign is the total number of sign observed minus the number of sign attributed to the same tortoise. A tortoise in a burrow, for example, is recorded as two "total sign" and one corrected sign. The density ranges predicted by the above model were adjusted by the Las Vegas District of BLM (based on work by Karl 1980). The original model was developed in California, but is believed to overestimate tortoise population densities in Nevada. The Nevada linear regression models were used in this survey to estimate tortoise population densities (Tables 1 and 2).

Table 1. Relationship between Sign Count per Triangular-Strip Transect Survey and Tortoise Population Density Estimates

Number of Corrected Sign/Triangular Transect		Regression Equation	Density Range		Relative Density
California[a]	Nevada[b]		California[a]	Nevada[b]	
0	1	0	0-20	0-10	Very Low
1-3	1-3	8-15	20-50	10-45	Low
4-9	-	28-81	50-100	-	
-	4-7	-	-	45-90	Moderate
10-15	-	92-148	100-250	-	
-	8-11	-	-	90-140	High
15+	-	159+	250+	-	
-	12+	-	-	140+	Very High

a From Berry and Nicholson (1984). Regression equation used: Tortoises per square mile (640 acres) = 4[(CS – 1.68)/0.35], where CS = corrected sign.

b From information developed by the Las Vegas District of BLM (based on work by Karl 1980). Density ranges were developed for the district because it was believed that estimated ranges for California overestimated actual tortoise population densities in Nevada.

Table 2. Estimated Tortoise Density Ranges Related to Survey Results

Number of Corrected Sign per Triangular-Strip Transect	Corrected Sign/Acre*	Density Estimates (number per square mile) Nevada Range	Relative Density
0	0	0-10	Very Low
1-3	0.1-0.5	10-45	Low
4-7	0.6-1.1	45-90	Moderate
8-11	1.3-1.8	90-140	High

Number of Corrected Sign per Triangular-Strip Transect	Corrected Sign/Acre*	Density Estimates (number per square mile) Nevada Range	Relative Density
12+	1.9+	140+	Very High

* Based on an approximation of 6 acres surveyed during a typical triangular-strip transect survey.

4.0 AFFECTED ENVIRONMENT

Much of the project area is relatively undisturbed; however, portions of the proposed project site have been previously disturbed by the construction of the nearby Nevada Solar-One power plant, construction of existing powerlines and the construction of the historic Highway 5, which bisects part of the project area. These disturbed areas possess urban and construction related trash, they display high rates of erosion, the vegetation is often denuded or highly disturbed and the presence of invasive plant species are increased.

4.1 Vegetation

The project area contains two main vegetative communities: Mojave creosote bush scrub and Mojave wash scrub. A comprehensive list of vegetation observed within the project area can be found in Table 3. No federal- or state-protected plant species or sensitive species was identified as occuring within the project area and none were observed during the field investigations.

Table 3. Plant Species Identified in the Project Area

Family	Scientific Name[1]	Common Name[1]
LILIOPSIDA – Monocots		
Poaceae – Grass Family		
	Bromus cf. madritensis ssp. rubens *	red brome
	Dasyochloa pulchella	fluff Grass
	Schismus sp. *	Mediterranean grass
MAGNOLIOPSIDA – Dicots		
Asteraceae – Sunflower Family		
	Ambrosia dumosa	burroweed, white bursage
	Baileya multiradiata	desert marigold
	Chaenactis fremontii	Fremont pincushion
	Chaenactis stevioides	desert pincushion
	Gutierrezia sarothrae	broom snakeweed, matchweed
	Hymenoclea salsola	cheesebush
Boraginaceae – Borage Family		
	Amsinckia tessellata	devil's lettuce
	Cryptantha sp.	cryptantha

Table 3. Plant Species Identified in the Project Area

Family	Scientific Name[1]	Common Name[1]
	Pectocarya sp.	combseed
	Tiquilia plicata	fanleaf crinklemat, plicate coldenia
Brassicaceae – Mustard Family		
	Brassica tournefortii*	Sahara mustard
Cactaceae – Cactus Family		
	Cylindropuntia echinocarpa	silver cholla, golden cholla
	Cylindropuntia ramosissima	pencil cholla
	Echinocereus engelmannii	hedgehog cactus
	Ferocactus cylindraceus	barrel cactus
	Opuntia basilaris	beavertail cactus
Chenopodiaceae – Goosefoot Family		
	Atriplex cf. confertifolia	shadscale
	Krascheninnikovia lanata	winter fat
	Salsola tragus*	Russian thistle, tumbleweed
Euphorbiaceae – Spurge Family		
	Chamaesyce albomarginata	rattlesnake weed
Fabaceae – Legume Family		
	Acacia gregii	catclaw
Hydrophyllaceae – Waterleaf Family		
	Phacelia sp.	phacelia
Loasaceae – Loasa Family		
	Mentzelia albicaulis	whitestem blazingstar
Malvaceae – Mallow Family		
	Sphaeralcea ambigua	desert globemallow, apricot mallow
Onagraceae – Evening Primrose Family		
	Camissonia sp.	camissonia
Polygonaceae – Buckwheat Family		
	Chorizanthe rigida	rigid spineflower
	Eriogonum deflexum	skeleton weed
	Eriogonum inflatum	desert trumpet
Zygophyllaceae – Caltrop Family		
	Larrea tridentata	creosote bush

[1]Common and scientific names follow Niles, W., and P. Leary. 2007. Annotated Checklist of the Vascular Plants of the Spring Mountains Clark and Nye Counties, Nevada.

*Indicates non-native and/or invasive plants

4.1.1 Mojave Creosote Bush Scrub

This vegetation community is widespread in the Mojave Desert and occurs below 5,000 feet in elevation. Vegetation typical of the creosote bush scrub community and common within the survey area include: creosote bush, white bursage, broom snakeweed, desert trumpet, and desert globemallow.

4.1.2 Mojave Wash Scrub

This vegetative community occurs on sandy bottoms of wide canyons, incised arroyos of upper bajadas, and sandy, shallow washes of the lower bajadas in the Mojave Desert, usually below 5,000 feet. This community exists in the many major washes and secondary drainages within the project area. The soils consist primarily of sand and silty sand. Vegetation typical of the Mojave wash scrub and common within the survey area include: cheesebush, shadscale, and acacia.

4.1.3 Cactus and Yucca

A low density of cactus and yucca were observed in the project area. The Nevada Revised Statutes (NRS) 527.060 to 527.120 that provide protection for these plants is applicable on public lands or during transportation of the plants. The proposed project is on non-federal lands and there will be no transportation of cactus or yucca during the project; therefore these species are not discussed further in the Environmental Consequences section.

4.1.4 Noxious Weeds

A noxious weed is legally defined as any plant designated by a federal, state, or county government as injurious to public health, agriculture, recreation, wildlife, or property (Sheley et al. 1999) A noxious weed can also be defined as a plant that grows out of place and is "competitive, persistent, and pernicious" (James et al. 1991).

Noxious weeds currently present in the project area in low numbers include, sahara mustard, Mediteranean grass, red brome, and Russian thistle or tumbleweed.

4.2 Wildlife

The proposed project area supports wildlife characteristic of the north-eastern Mojave Desert. Wildlife observed during surveys are described below.

Reptiles

Several species of reptiles were observed during the 2009 desert tortoise field surveys conducted by NewFields. These species include the western whip-tail (*Cnemidophorous tigris*), desert iguana (*Dipsosaurus dorsalis*), side-blotched lizard (*Uta stansburniana*), zebra-tail lizard (*Callisaurus draconoides*), desert tortoise, Mojave rattlesnake (*Crotalus scutulatus*) and coachwhip snake (*Masticophis flagellum*).

Birds

Bird species observed during the surveys include the turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), and western burrowing owl (*Athene cunicularia hypugea*).

Mammals

Mammal species observed includes the black-tailed hare (*Lepus californicus*), coyote (*Canis latrans*) and evidence of kit fox (*Vulpes macrotis*) was present. Abundant evidence suggested the presence of common Mojave Desert rodent inhabitants such as cactus mice (*Peromyscus* spp.), Merriam kangaroo rats (*Dipodomys merriami*) and species associated with rocky habitats including the wood rat (*Neotoma lepida*), rock pocket mouse (*Perognathus intermedius*), and white-tailed antelope squirrel (*Ammospermophilus leucurous*).

4.3 Endangered and Threatened Species

The desert tortoise is the only federally listed endangered or threatened species in the project area, and is considered threatened with extinction. The protective status of the desert tortoise also provides federal protection to the desert tortoise designated critical habitat. This assessment was made using field investigations and literature searches.

4.3.1 Desert Tortoise

If basic habitat requirements are met, the desert tortoise can survive and reproduce within the varied vegetation communities of the Mojave region (USFWS 1994). These requirements include sufficient suitable plants for forage and cover, suitable substrates for burrow and nest sites, and freedom from disturbance. Throughout most of the Mojave region, the desert tortoise occur primarily on flats and bajadas with soils ranging from sand to sandy-gravel characterized by scattered shrubs and abundant inter-shrub space for herbaceous plant growth. They are also found on rocky terrain and slopes.

There is significant geographic variation in the way desert tortoise use available resources. Within the Eastern Mojave Recovery Unit (close to the project area), they are often active in late summer and early autumn in addition to spring. The region receives both winter and summer rains, which support two distinct seasonal, annual, floras desert tortoise feed upon. Desert tortoise also feed on cacti, perennial grasses, and herbaceous perennials. Desert tortoises in the Eastern Mojave Recovery Unit typically burrow singly in caliche caves, bajadas, and washes (USFWS 1994).

The factors causing the decline of the desert tortoise are primarily human related. These factors include collection of desert tortoises for pets, food, and commercial trade; collision with vehicles on roads and highways; mortality from gunshot; and ORV travel cross-country or on trails. Predation by the common raven is intense on younger age classes of desert tortoise. Raven populations have shown a 15-fold increase in the Mojave Desert from 1968 to 1988 (Berry 1990). Increased food supplies from road kills, landfills, trash, garbage dumps, agricultural development, new perch and nest sites all contribute to the increased population of ravens. Berry (1990) speculated that raven predation has resulted in such high juvenile desert tortoise loss in some portions of the Mojave that recruitment of juveniles into the adult population has been halted.

Upper respiratory track disease (URTD) was discovered in 1990 and is currently a major cause of mortality in the western Mojave Desert population. Habitat degradation, poor nutrition, and drought have increased the desert tortoises' susceptibility to this disease (USFWS 1994). It is thought that URTD is transmitted between desert tortoise populations when desert tortoises are captured as pets, then subsequently released.

Habitat fragmentation, degradation, and loss are also major factors in desert tortoise decline. Habitat degradation forces desert tortoise to forage over larger areas, exposing them to greater dangers. The conversion of native perennial grasses, annuals, and shrubs to inedible exotic species has reduced food sources for the desert tortoise and increased susceptibility to wildfires thus increasing tortoise mortality.

Data collected within the project area was analyzed using the Berry and Nicholson (1984) liner regression model adapted to Nevada based on work by Karl (1980). The tortoise density survey found tortoise population densities within the project area to be low, ranging from 10 to 45 individuals per square mile. Figure 2 shows the distribution of tortoise sign observed within the project area. Results of the survey are below.

- Area surveyed (Acres) = ~1,200
- Burrows = 423
- Live tortoise = 2
- Carcasses = 15
- Scat = 43
- Eggshell = 0
- Other sign = 9
- Total sign = 502
- Corrected sign = 426
- Corrected sign/acre = 0.36
- Density estimates = 10 to 45 per square mile
- Relative tortoise population density = Low

4.3.2 Desert Tortoise Designated Critical Habitat

In 1990, the USFWS listed the desert tortoise as threatened over 30 percent of its geographic range. In response to this listing, the Desert Tortoise (Mojave Population) Recovery Plan was created to aid in the preservation of the species. In this plan, six population units termed "recovery units," were identified using available data on genetic variability, morphology, ecosystem types and population behavior. Within these recovery units, 14 Desert Wildlife Management Areas (DWMA's) were identified as areas where tortoise populations could be managed for recovery. The guidelines used to delineate the 14 DWMA's were used by the USFWS to designate federally protected desert tortoise "Critical Habitat" in 1994. Of the original 22,616 to 27,407 square kilometers recommended for protection in the 14 DWMAs, 26,087 square kilometers became the USFWS Critical Habitat. No USFWS Desert Tortoise Designated Critical Habitat is within the boundaries of the proposed project area and thus Critical Habitat is not discussed in Section 5.0, Environmental Consequences.

4.3.3 Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC) are a designation unique to the BLM that is accomplished through the land use planning process. These areas are created 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" (BLM 2008). Unlike designated wilderness areas, the designation of ACEC does not automatically prohibit or restrict the use of the area. No ACEC are within the boundaries of the proposed project area and thus ACEC are not discussed in Section 5.0, Environmental Consequences.

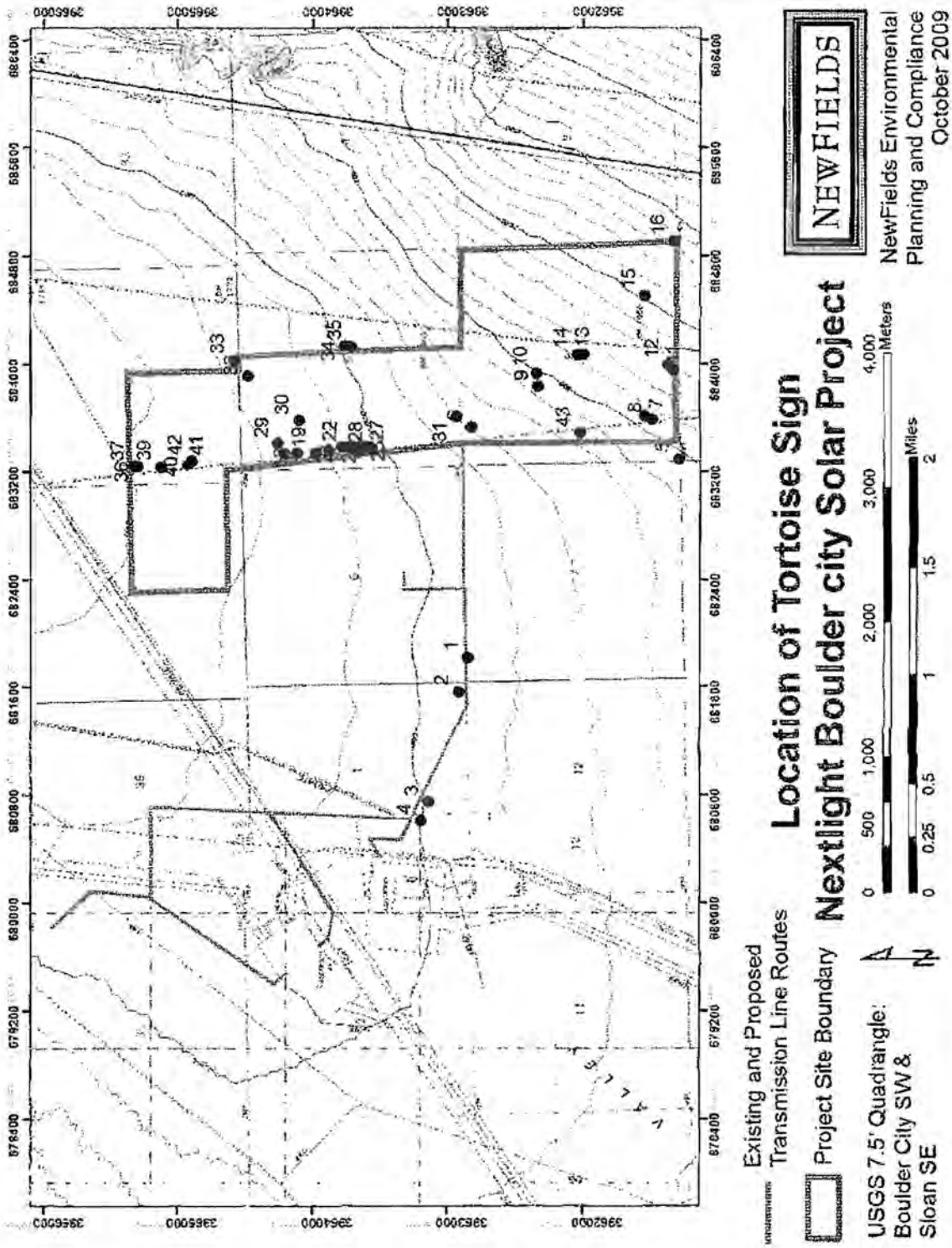

Figure 2. Tortoise Sign Observed During 100% Coverage Linear Transects

4.4 Sensitive Species

The Nevada Administrative Code (NAC) lists species of native flora and fauna identified for preservation and protection because populations are declining and habitats are deteriorating.

Most birds of Nevada are protected by the Migratory Bird Treaty Act (MBTA). The MBTA provides protection of nearly all species of birds from harm by prohibiting the destruction of active nesting habitat. The Mojave creosote bush scrub vegetation community provides habitat for foraging and nesting for a variety of songbird and raptors including

The Nevada Revised Statutes (NRS) 503.620, extend protection of birds included in Migratory Bird Treaty Act (discussed below). Under this statute it is unlawful for any person to hunt or take any dead or alive birds, nests of birds or eggs of birds protected by the Act of Congress commonly known and referred to as the Migratory Bird Treaty Act.

Migratory Bird Treaty Act

Executive Order (January 11, 2001) defines the responsibilities of the Federal Agencies to protect migratory birds; under the MBTA of 1918 and subsequent amendments (16 U.S.C. 703–711) state that it is unlawful to take, kill, or possess migratory birds. Numerous bird species travel through Nevada during spring and fall migrations. A complete list is published at the USFWS web site (USFWS 2006). A list of those that are protected birds is in 50 CFR 10.13. The list of birds protected under this regulation is extensive and the project area has potential to support many of these species. Typically, the breeding season is when these species are most sensitive to disturbance, which generally occurs from March 15 through July 30. The project area contains potential nesting and foragaing habitat for migratory birds.

4.4.1 Western Burrowing Owl

The Western burrowing owl is known to occur in the project area and is protected by the MBTA and by the State of Nevada per NRS 503.620,. This species is a day-active bird of prey specialized for grassland and shrub-steppe habitats in western North America. The owls are widely distributed throughout the Americas and can be found from central Alberta, Canada to Tierra del Fuego in South America.

Burrowing owl habitat typically consists of open, dry, treeless areas on plains, prairies, and desert floors (Haug et al. 1993). Burrowing owls most frequently use mammal burrows created by other animals such as kit fox, coyotes or desert tortoises. Burrow presence is the limiting factor to burrowing owl distribution and abundance (Coulumbe 1971; Martin 1973; Green and Anthony 1989; Haug et al. 1993). The burrows are used for nesting, roosting, cover, and caching prey (Coulumbe 1971; Martin 1973; Green and Anthony 1989; Haug et al. 1993).

In recent decades, the range and species count have been declining primarily due to agricultural, industrial, and urban development that reduce burrow availability. The owls also face increased mortality rates from pesticides and edge-effect predation (Haug et al. 1993).

Wildlife surveys conducted within the project area in October of 2009, observed numerous burrowing owls and evidence of their presence such as pellets and scat.

4.4.2 Gila Monster

The Gila monster (*Heolderma suspectum*) is classified as a State sensitive reptile (NAC 503.080) was not observed during the biological surveys but has the potential to occur in the project area. The geographic range and habitat of the Gila monster overlaps with that of the desert tortoise. This venomous lizard is found below 5,000 feet elevation on rocky slopes and landscapes of upland desert scrub interspersed with desert washes.

This is a large, heavy-bodied lizard with a massive head, a short thick tail, and short limbs with strong claws. It has flamboyant dorsal coloration of black and pink, orange, or yellow and occasionally exceeds 50 centimeters (19.7 inches) in total length (Campbell and Lamar 1989). The Gila monster's range includes extreme southwestern Utah, southern Nevada, and adjacent southeastern California south through southern Arizona, southwestern New Mexico, and much of Sonora to Sinaloa, Mexico (Stebbins 2003). Its habitat includes Mojave and Sonoran desert scrub, desert grassland, thorn scrub, and occasionally pine-oak woodland. Threats to this reptile include illegal collection, traffic fatalities, and most severe is habitat destruction from urban and agricultural development (Campbell and Lamar 2004).

No Gila monsters were observed during the 2009 surveys for this project. Data compiled by NNHP reported the gila monster within the proposed project vicinity from previous surveys. Suitable habitat of rocky outcrops with desert washes is not found within the survey area and the presence of the Gila monster is unlikely; therefore the Gila monster is not discussed further in the Environmental Consequences section.

5.0 ENVIRONMENTAL CONSEQUENCES

5.1 Vegetation

Impacts to vegetation would consist mainly of loss of Mojave creosote bush scrub habitat and Mojave wash scrub. Approximately 1,200 acres of these two vegetation communities would be affected by construction activities, of which the majority would be permanently removed to facilitate the installation of a solar array and thus will have long-term impact. Additional impacts to vegetation communities would include soil compaction, loss of topsoil, and removal or reduction in the seed bank. Indirect impacts to vegetation at and adjacent to the proposed project include increased human presence that could lead to increased ORV use, dumping, proliferation of invasive species and illegal collection of plants. The Proposed Action would decrese the amount of Mojave creosote bush scrub vegetation community but not have a material effect on the widespread creosote bush community in Clark County or southern Nevada. No federally protected or sensitive plant species were identified as likely to occur on the site and none were observed during the biological surveys.

5.2 Noxious Weeds

Potential Impacts

Noxious weeds can alter the habitat for wildlife and vegetation by choking out native vegetation. Creosote bush scrub is open and sparse with an abundance of bare soil between plants. This bare soil helps to prevent the spread of fire. With the introduction of alien vegetation, this important feature is lost. Once a fire starts, it is virtually impossible for the landscape to return to its previous state. Historically, fires were small or infrequent in the Mojave region, and because

native desert plants and animals have not evolved with fire and are not adapted to it, they are generally killed by high-intensity fire. The increasing incidence and severity of fire in the Mojave region is converting desert shrub lands into ephemeral grasslands (USFWS 1994). The loss of perennial shrubs reduces available cover from the intense solar radiation for the desert tortoise. The loss of perennial grasses and native forbs greatly reduces the available food for desert tortoise. It is anticipated these potential effects would be reduced to acceptable levels by implementation of the mitigation and compensation measures discussed in the following sections.

5.3 Wildlife

The primary direct impact of construction activities on wildlife would be the removal or disturbance of wildlife habitat. Clearing and grading activities would result in the mortality of some less mobile wildlife (e.g., some reptiles and burrowing mammals). More mobile species may avoid the initial clearing activity and move into adjacent areas.

Construction and road traffic would result in increased noise levels, dust levels, disruption in breeding habits, and vehicle mortality. Increased habitat fragmentation would occur. Transmission lines pose a possible threat to birds due to potential collisions. Transmission lines could also enhance perching sites for raptors, and potenially increase the pressure of predation on certain wildlife. It is anticipated these potential effects would be reduced to acceptable levels by implementation of the mitigation and compensation measures discussed in the following sections.

5.4 Endangered and Threatened Species

5.4.1 Desert Tortoise

Approximately 1,130 acres of habitat would be impacted from construction activities. Due to the permanence of the solar array, nearly all of the impact within the 1,130 acres will be long-term. The population density of the desert tortoise was found to be low in the proposed project area. Direct impacts to the desert tortoise would result from construction activities including removal of habitat, loss or displacement of habitat features such as shade cover, loss of forgeable plant material and potential direct mortality from vehicles.

Indirect impacts would occur during construction and operation activities, as well as during post construction. Newly created access roads would increase human presence and subsequently increase fire risk, habitat fragmentation, spread of invasive species, vehicle strike, the threat of tortoise collection, vandalism and spread of disease. The tortoises could be subject to higher risks of predation from coyotes and raptors if trash and litter were uncollected as this could attract predators to the area. A wider distribution of transmission lines would also create structures for raptor perching, thus increasing juvenile mortality. It is anticipated these potential effects would be reduced to acceptable levels by implementation of the mitigation and compensation measures discussed in the following sections.

5.5 Sensitive Species

5.5.1 Migratory Birds

The project area is known habitat for several migratory birds. Native plant communities that provide habitat to nesting migratory birds are anticipated to be eliminated as a result of the proposed project. Nesting use would likely be displaced to neighboring plant communities. Construction during the migratory bird nesting season could result in the injury/mortality of eggs and/or young birds in nests. Avian collision with the proposed transmission line can result in injury from wire strike. It is anticipated these potential effects would be reduced to acceptable levels by implementation of the mitigation and compensation measures discussed in the following sections.

6.0 MITIGATION MEASURES

To limit impacts upon the desert tortoise and its habitat, mitigation strategies will include minimizing the take of individual tortoise and to compensate for unavoidable habitat loss, or loss in habitat quality through renumeration fees. The mitigation will include the general conservation strategies, as well as adhere to the specific desert tortoise conservation measures and compliance with the terms and conditions of the USFWS Biological Opinion.

6.1 General Conservation Measures

These measures are adapted from the Clark County Multiple Species Habitat Conservation Plan and Environmental Impact Statement (Clark County 2002). The measures below will aid in preserving the quality of adjacent desert tortoise habitat and will benefit other species as well:

- Locate and properly dispose of waste and excess excavated materials outside jurisdictional drainages to avoid sedimentation.
- Conduct regular site inspections during the construction period to ensure that erosion-control measures were properly installed and are functioning effectively.
- Store, use, and dispose chemicals, fuels, and other toxic materials in an appropriate manner.
- Keep equipment in good condition with no significant leaks of fuel or other substances that could be toxic to animals and fish. Equipment should be washed prior to first site use to prevent the spread of invasive species.
- Keep materials to absorb small spills of toxic materials available onsite.
- Ensure that roads are engineered to adequately spread runoff to minimize erosion.
- Minimize soil compaction, erosion, and vegetation loss to preserve habitat by limiting construction activities to the ROW.

6.2 Mitigation Measures Specific to the Desert Tortoise

- Mitigation measures for the desert tortoise include the following elements:
- Tortoise Fence Construction and Monitoring

- Tortoise Clearance Surveys and Relocation
- Desert tortoise protection education
- Construction Methods
- Tortoise removal
- Speed limits and signage
- Trash and litter control
- Habitat compensation

Tortoise Fence Construction and Monitoring

Tortoise exclusion fencing will be installed along the base of the security fence around the project site. A qualified and USFWS approved desert tortoise biologist would be on site at all times during fence construction to oversee compliance with all of the measures described below including halting construction that may endanger a desert tortoise until the risk has been eliminated. Procedures would be implemented as identified in USFWS approved protocols (Desert Tortoise Council Guidelines for Handling Desert Tortoises During Construction Projects 1994, revised 1999).

Tortoise Clearance Surveys and Relocation

Following fencing of the project area, a 100 percent removal survey following Service protocol will be conducted on the portions of the property being developed. All burrows located within areas proposed for disturbance, whether occupied or vacant, would be inspected for occupancy, vacated if necessary, and collapsed or blocked to prevent desert tortoise reentry. All burrows excavation would be conducted using hand tools to allow safe removal of desert tortoises or desert tortoise eggs. All located tortoises and tortoise eggs would be relocated offsite into adjacent undisturbed habitat, or other suitable habitat. Tortoises found aboveground would be placed under a marked bush in the shade. A tortoise located in a burrow would be placed in an existing unoccupied burrow of the same size and orientation as the one from which it was taken. If a suitable natural burrow is unavailable, one will be constructed. Any tortoise found within 1 hour before nightfall would be placed in a separate, clean cardboard box and held overnight in a cool location. Burrows not within the project footprint but within near proximity of construction would be flagged for avoidance or excavation.

These measures would also afford protection for burrowing owls with the clearance and removal scheduled for a non-breeding time period. Other animals using underground burrows would also benefit from implementation of these measures.

Special precautions would be taken to ensure that desert tortoises are not harmed as a result of their capture and movement during extreme temperatures (i.e., below 55° F or above 95° F). Under such adverse conditions, tortoises captured would be monitored continually until the tortoise exhibits normal behavior. If a tortoise shows signs of heat stress, procedures would be implemented as identified in USFWS approved protocols.

Desert Tortoise Protection Education

A desert tortoise education program would be presented to all personnel onsite during construction. This program would contain information concerning the biology and distribution of

the desert tortoise, desert tortoise activity patterns, and its legal status and occurrence in the proposed project area. The program will also discuss the definition of "take" and its associated penalties, measures designed to minimize the effects of construction activities, the means by which employees limit impacts, and reporting requirements to be implemented when tortoises are encountered. Personnel would be instructed to check under vehicles before moving them as tortoises often seek shelter under parked vehicles.

Speed Limits and Signage

A speed limit of 15 miles per hour would be maintained while on the construction site, access roads, and storage areas during the periods of highest tortoise activity (March 1 through November 1) and not to exceed 25 miles per hour during periods of low tortoise activity. This will reduce dust and allow for observation of tortoises in the road. Speed-limit and caution signs would be installed along access roads and service roads. Speed limits would not be warranted within the fenced and cleared project site or after construction.

Trash and Litter Control

Trash and food items would be disposed properly in predator proof containers with resealing lids. Trash will be emptied and removed from the project site on a period basis. Trash removal reduces the attractiveness of the area to opportunistic predators such as ravens, coyotes and fox.

Habitat Compensation

Compensate habitat loss by paying the annually adjusted renumeration fees for disturbance of desert tortoise habitat under Section 10 of the Endangered Species Act. The renumeration fee rate is $550 per acre. Prior to surface disturbance activities within desert tortoise habitat, the project proponent would pay one-time renumeration fee (per acre of proposed disturbance) into the Desert Tortoise Public Lands Conservation Fund Number 730-9999-2315.

6.2 Mitigation Measures Specific to Western Burrowing Owls and Migratory Birds

In compliance with the Migratory Bird Act of 1918, habitat-altering projects or portions of projects should be scheduled outside bird breeding season (between March 15 and July 30) whenever possible. For work occurring during the nesting period, a qualified biologist would survey the area for nests within 15 days prior to initial grading and vegetation removal. This shall include burrowing and ground-nesting species in addition to those nesting in vegetation. If any active nests (containing eggs or young) are found, a 500-foot buffer area would be avoided until the young birds fledge.

Perch management attempts to control where birds land or nest on tranmission structures. These devices include various designs of perch guards, elevated perching platforms, metal needle wire spikes, nesting platforms, insulated disk barriers and plastic bird spikes.

Several devices are designed to discourage birds from landing at dangerous structure locations. It is important to note that perch guards do not always keep raptors off structures. Placing perch guards on the top of vertical construction may contribute to inadvertent electrocutions as the birds may choose to roost lower on the pole, near energized conductors. Perch guards can also shift problems onto other line segments.

It is more desirable to allow raptors to safely use the structures rather than shifting them off preferred perches to other structures that may be more lethal.

7.0 CONCLUSION

Potential impacts to biological resources would be reduced to an acceptable level with the adoption of the mitigation measures described in this document and compliance with the terms and conditions of the Clark County MSHCP. Temporarily disturbed vegetation and habitat would be restored. Mitigation measures designed to reduce impact to desert tortoise would serve double duty and also benefit Western burrowing owl and other protected avian species.

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USFWS. 1994. Desert Tortoise (Mojave Population) Recovery Plan. Region 1, Portland, Oregon.

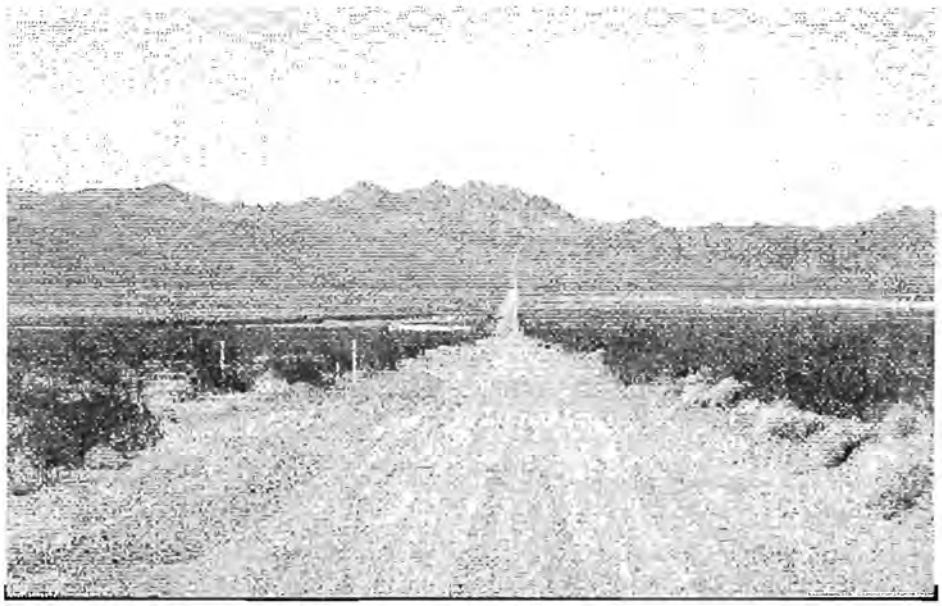
APPENDIX C

CULTURAL RESOURCES REPORT

FINAL

CULTURAL RESOURCES OVERVIEW AND ARCHAEOLOGICAL INVESTIGATIONS FOR THE NEXTLIGHT BOULDER CITY SOLAR PROJECT

Clark County, Nevada



Prepared for:

NextLight Renewable Power, LLC

Prepared by:
Anne DuBarton

NEWFIELDS

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Las Vegas, Nevada 89117

November 2009

TABLE OF CONTENTS

Section **Page**

LIST OF FIGURES

Figures **Page**

LIST OF TABLES

Tables **Page**

MANAGEMENT SUMMARY

Pursuant to the Utilities Environmental Policy Act (UEPA), and Section 106 of the National Historic Preservation Act, in September and October of 2009, NewFields Archaeologists performed archaeological investigations located on approximately 1130 acres within the proposed NextLight Boulder City Solar Project, Clark County, Nevada (Figure 1). The investigations included an archaeological site file search for the entire project area and a Class III inventory of the area. These investigations document the location and extent of cultural resources occurring within the 1130 acres proposed for a solar facility.

The Boulder City Solar Project consists of a 150-megawatt (MW) alternating current (AC) solar photovoltaic (PV) facility located on 1,130 acres of land located in Boulder City, Clark County, Nevada. The Project can be accessed from State Highway 95 to Eldorado Valley Drive. Power generated by the Project will be delivered via a gen-tie from the Project to the Nevada Solar One Substation, approximately 1 mile to the west of the Project, and/or to the Merchant Substation, 1.5 miles to the west of Project site. The Project is currently planned to begin construction in the fourth quarter of 2010 and to be completed by the second quarter of 2012.

No archaeological sites had been previously recorded within or near the project area. NewFields documented one new historical site (Figure A-1), and recorded 43 isolated artifacts during field reconnaissance (Table 4).

NewFields recommends additional recording and surface collection at a historic site that could provide information about historic transportation systems in southern Nevada. Per NAC 703.420(4)) mitigation of the site represents the minimum adverse effect on cultural resources that can be achieved if the proposed facility is constructed.

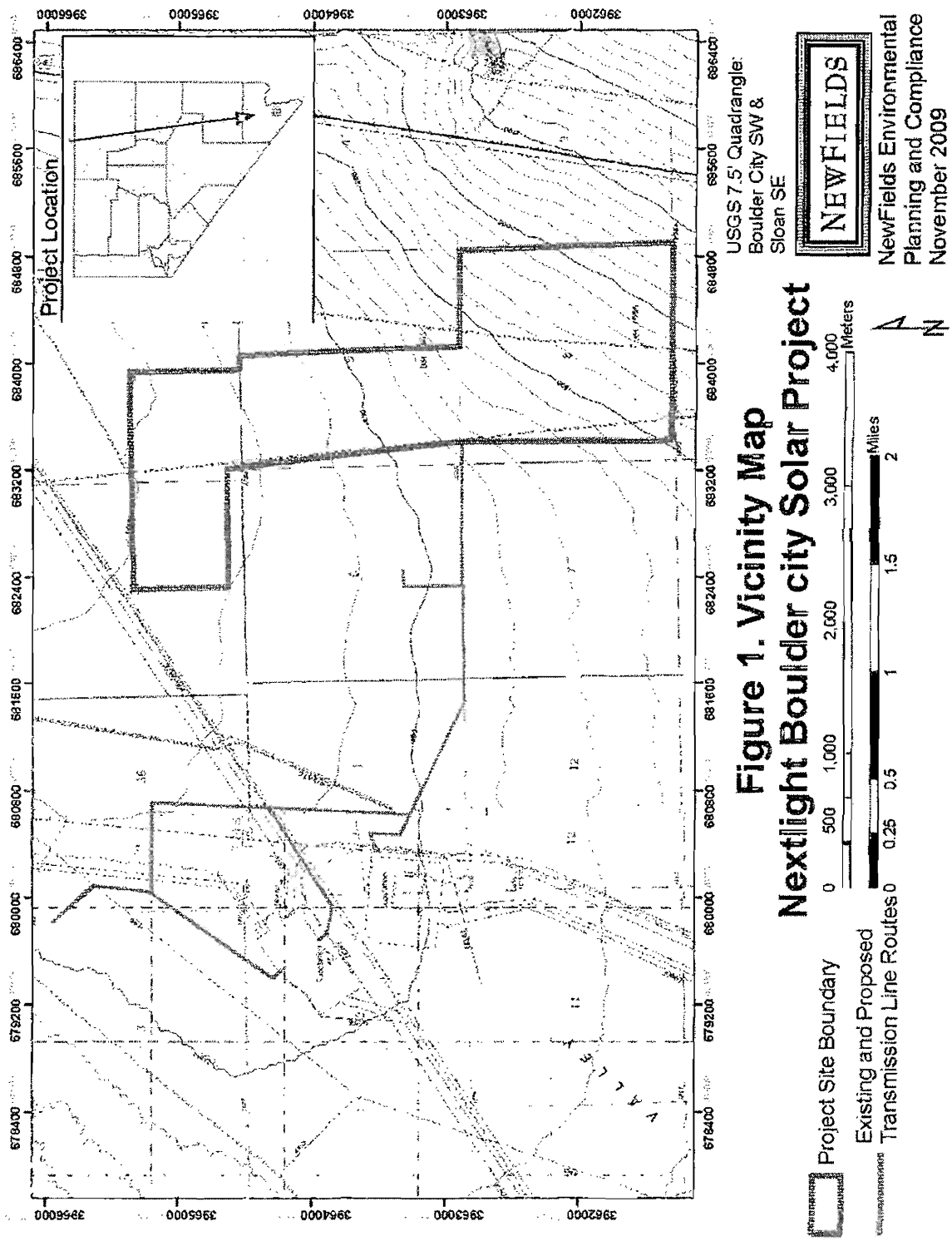

Figure 1. The NextLight Boulder City Project Area

INTRODUCTION

The project area includes approximately 1,130 acres of city-owned property located in Eldorado Valley, Nevada. For the purposes of this analysis, project elements on city, state, and federal property were considered. NextLight Renewable Power, LLC (NextLight) proposes to construct, own, and operate a 150-megawatt (MW) solar photovoltaic (PV) power generation facility on land owned and administered by the city of Boulder City. The project is designed to meet the increasing demand for clean, renewable, electrical power. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, and contributes to the reduction of greenhouse gas emissions. Solar energy development is also consistent with Federal policies including Executive Order 13423. This Order establishes as policy of the United States that Federal agencies conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

The development on city-owned lands could involve construction of some or all of the following elements:

- Modular photovoltaic solar panels
- Single-axis tracker systems or stationary PV panels mounted on cement ballasts that sit directly on the ground, or driven piles about 15 feet deep, or embedded foundations
- Direct current to alternating current power inverters mounted on concrete pads
- Three-phase pad mounted transformers that step up the voltage output of each inverter to 34.5 kilovolts (kV)
- One or more 34.5 kV to 230 kV step up transformers connected to one or both of two nearby substation; Nevada Solar One Substation, approximately 1 mile to the west of the site, and Merchant Substation, approximately 1.5 miles to the west.

The PV modules will convert sunlight into DC electricity. Approximately 1 to 3 MW of DC power will be collected from each of the multiple rows of PV modules through one or more combiner boxes and conveyed to an inverter. The inverter will convert the DC power to AC power, which then flows to a medium-level transformer that converts the output of the inverter to 34.5 kV. Multiple medium-level transformers will be connected in parallel in a daisy chain configuration and collected at the Project substation, where the power will be stepped up to 230 kV for delivery to the transmission system grid.

As shown on Figure 1, the project area is located on U.S. Geological Survey 7.5 minute quadrangle maps, including: Boulder City SW: Sections 5, 6, and 8 of Township 25 South, Range 63 East. Sections 31 and 32 of Township 24 South, Range 63 East. Sections 1 and 12 of Township 25 South, Range 62 East.

Because the proposed project is not located on federal lands, compliance with federal laws such as the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) is not required. However, the UEPA requires a demonstration of the nature of the probable effect on the environment, after mitigation, if the proposed utility facility is constructed (NAC 703.420(4)) and a description of the environmental characteristics of the region in sufficient detail to provide an understanding of the environment existing when the application is

made and the impact that each alternative would have on that environment (NAC 703.420(4)(a)). Therefore, this report describes the cultural resources found in the project area and utilizes eligibility for listing on the NRHP to gauge the significance of sites located during the field reconnaissance.

The NRHP criteria stipulate that sites must be assessed for integrity of location, design, setting, materials, workmanship, feeling, and association. A site may be considered eligible for the NRHP if it retains sufficient integrity of the elements above and if it:

- Is associated with events that have made a significant contribution to the broad patterns of our history, or
- Is associated with the lives of persons significant in our past, or
- Embodies the distinction characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction, or
- Yields, or may be likely to yield, information important in prehistory or history.

In addition to the above criteria, the development of contexts is necessary to place the sites within a framework wherein evaluation criteria can be appropriately structured. A context is a body of information about historic properties organized by basic elements—theme, place, and time (NPS 1997). Together, the historic contexts comprise the history or prehistory of the area broken down into a series of historically meaningful segments, each segment being a single historic context. Grouped together the various historic contexts of an area form a comprehensive summary of all aspects of the area's history and prehistory. With this information, specific research goals may be developed. In the following sections the project area is placed within a natural and cultural context and research goals considered important to understanding the Eldorado Valley are presented.

NATURAL CONTEXT

The Eldorado Valley, with an average elevation of 1700 feet, is at the terminus of a large alluvial fan which drains eastward out of the McCullough Range. The deepest portion of the Eldorado Valley is the dry lake or playa, in which water accumulates from time to time, depending on the precipitation. The northern division of the McCullough Range to the northwest of Eldorado Valley consists chiefly of Tertiary volcanic rocks. The eastern edge of this division is a steep escarpment 2,000 to 3,000 feet high exposing the volcanic section. An elongate body of quartz monzonite extends four miles southwest from Railroad Pass and cuts the lower member of volcanic rocks. The volcanic rocks are composed of two members: the lower member, about 2,000 feet thick, consists largely of reddish-brown andesite breccia; and the upper member, 1,200 feet thick, is a series of black basalt flows alternating with zones of reddish-brown breccia. Flows of dark-brown latite are exposed in the lower member but are lacking in the upper member.

The project area is located within the floristic province known as the Mojave Desert. This Desert encompasses some 32 million acres. The dominant vegetation type in the project area is Creosote Bush Scrub which is widespread and covers approximately two-thirds of the Mojave Desert below about 5,000 feet in elevation (Figure 2).. Creosote bush is a dominant or codominant member of most plant communities in the Mojave, and also in the Sonoran, and Chihuahuan deserts.

Other vegetation typical of this community and common within the project area include: creosote bush, white bursage, broom snakeweed, desert trumpet, and desert globemallow. The project area also contains some Desert Wash Scrub habitat which community occurs on several of the sandy, shallow washes and secondary drainages within the project area. Vegetation typical within this community included cheesebush, shadscale, and acacia. Cacti and yucca were observed to have a scattered and scarce distribution in the project area.

The proposed project area supports wildlife characteristic of the Mojave Desert. Species observed or identified indirectly by sign (tracks, scat or droppings, burrows, feathers, bones, etc.) included reptiles, birds, and mammals common to the region. Reptiles observed included western whip-tail lizard, desert iguana, side-blotched lizard, zebra-tail lizard, desert tortoise, coachwhip snake, and Mojave rattlesnake. Avian species identified included turkey vulture, common raven, red-tailed hawk. These species are raptors or predatory birds that commonly hunt from wing. Mammals occurring at the site likely include coyote, kit fox, kangaroo rats, pocket mice, California jackrabbits and desert cottontails. Several of these were important to the diet of prehistoric people including chuckwallas and desert tortoises.

The project area is primarily undisturbed desert, although transmission lines, a gas pipeline, and roads bisect the region. The soil is extremely rocky and consists of eroded volcanic rocks that are Tertiary (65 million to 1.6 million years ago) in age. These deposits range in composition from andesite to basalt and are cut by dikes and other intrusive bodies (Longwell et al. 1965:99).

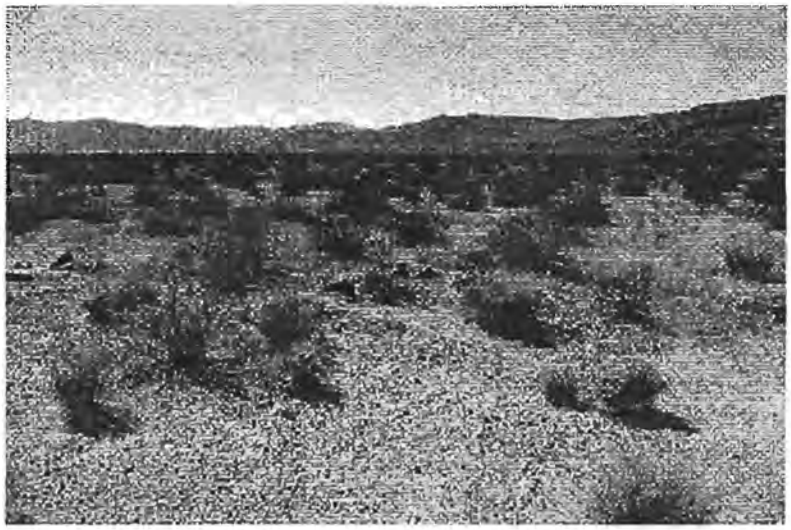

Figure 2. Mojave Desert Scrub Found in the Project Area

HISTORIC CONTEXT

Little is known about the Eldorado Valley and its relationship to regional archaeological cultures. While the region is generally assigned to the Southern Paiute culture area, a realistic view of the region is that both prehistorically and historically it functioned as a major travel corridor between the Colorado River and the Las Vegas Valley. Particularly in the period post-dating 1500 years before present, several varieties of cultural influences are manifest in the region. These include Anasazi, Patayan, and Numic traditions. Because the area is at the crossroads of these distinct cultural traditions, it is difficult to assign a comprehensive sequence of phases for the entire area. A chronology presented in Ezzo's (1995) publication works well for the early periods, but a chronology developed by HRA during the past 5 years (Ahlstrom 2003; Ahlstrom and Roberts 1999, 2001a, 2001b; Roberts and Ahlstrom 2000; Roberts et al. 2003a, 2003b) better characterizes the complexity of later occupations.

Their chronological framework, presented in Table 1, includes four major periods: Paleo-Archaic (10,000–5500 BC), Archaic (5500 BC–AD 500), Ceramic (AD 500–1800) and Historical (AD 1500–1950). They defined their first three periods (10,000 BC–AD 1800) with reference to archaeological data, whereas their fourth period (AD 1800–1950) is based on historical and ethnohistorical data.

Table 1. Chronological Sequence of the Las Vegas Valley

Period	Subperiod	Date Range
Paleo-Archaic	Fluted Point Tradition	10,000–9200 BC
	Stemmed Point Tradition	9200–5500 BC
Archaic	Middle	5500–3000 BC
	Late	3000 BC–AD 500
Ceramic	Early	AD 500–1000
	Middle	AD 1000–1500
	Late	AD1500–1800
Historical Paiute, Chemehuevi, and Mohave		AD 1600–1905
Historical Euro-American	Exploration/Pioneering	AD 1800–1855
	Transportation	AD 1856–Modern
	Mining	AD 1863–1941
	Power Generation and Transmission	AD 1931–1950

Paleo-Archaic Period (10,000–5,500 BC)

The Paleo-Archaic period includes the end of the Pleistocene epoch and the first several millennia of the Holocene epoch, and it combines what have generally been termed the Paleo-Indian and Early Archaic periods. Today, Great Basin archaeologists (Grayson 1993; Schroedl 1991) generally distinguish two artifact traditions within the Paleo-Archaic period: the Fluted Point (Paleo-Indian) and the Stemmed Point (Lake Mojave) traditions. Little evidence of either the Fluted or Stemmed Point traditions has been found in southern Nevada, although projectile points associated with these traditions have been found in surrounding areas.

Fluted Point Tradition

The Fluted Point Tradition's most characteristic artifact is the large, distinctive Clovis point. These points may have had a variety of uses, but in southern Arizona apparently some were

hafted to thrusting spears. These weapons were used to kill mammoths and other large mammals, or megafauna, that became extinct as the Pleistocene epoch ended and the Holocene epoch began. Although fluted points have been recorded throughout the Great Basin, most have been found as isolates. None of the Great Basin examples have occurred in association with evidence of extinct megafauna. The fluted points from this region are extremely variable in form (Grayson 1993), and only some of them fit the "classic" definition of the Clovis point.

HRA recorded a Clovis point base (Site 26CK6000) in the eastern half of Clark County Wetlands Park (Roberts 2000; Roberts and Ahlstrom 2000). This point is the first reliable evidence of the Clovis Tradition from Clark County. Clovis and Clovis-like points have, however, been found elsewhere in Southern Nevada as well as in the surrounding region of southwestern Utah, southeastern California, and northwestern Arizona (Haynes 2001; Roberts and Ahlstrom 2000). Most of these points have been isolates.

Stemmed Point Tradition

The Great Basin Stemmed Point Tradition was first recognized in the 1930s at sites located on the shores of Pleistocene Lake Mojave, California (Grayson 1993:239). The sites possessed Lake Mojave and Silver Lake projectile points as well as other distinctive artifacts called crescents (Warren and Crabtree 1986). Based on 60 years of research at these sites and at others throughout the Great Basin, the Lake Mojave Culture can be dated between 11,200 and 7500 years ago, or roughly to 9200–5500 BC (Grayson 1993:240–241; Warren and Crabtree 1986:184). This interval overlaps the traditional dating of both the "Paleo-Indian" and Early Archaic periods—which is the reason why archaeologists working in the Great Basin have identified a combined "Paleo-Archaic" period. As of the 1970s, Stemmed Point sites were known primarily from settings along lake margins. This led some archaeologists to associate them with a marsh- or lake-environment subsistence focus, referred to as the Western Pluvial Lakes Tradition (Grayson 1993:242). With the more recent discovery of Stemmed Point sites in numerous other environmental settings, this term has largely been abandoned (Grayson 1993). Today we know that the makers of stemmed points exploited a diverse array of plant and animal resources at locations throughout the Great Basin and Mojave Desert.

While no convincing Stemmed Point/Lake Mojave assemblages have been found in southern Nevada (HRA 2004), there have been some isolated finds of stemmed points. Graf and DuBarton (2001) recorded a stemmed point along the upper Las Vegas Wash during survey for the North Valley Lateral Water Pipeline, and two stemmed points were collected from the surface at the Twin Dunes site, located on the Eglington Escarpment. The site also produced surface evidence for use in the Middle Archaic, Late Archaic, and Ceramic periods, and it is not possible to relate the stemmed points to a contemporaneous artifact assemblage. Two Lake Mojave points were also recently reported from the Flaherty Rockshelter, located in the Apex Area on the northeastern edge of the Las Vegas Valley. Based on radiocarbon dates, the occupation of this site appears to have begun in the Middle Archaic, with most of the occupation dating to the Late Archaic through the Ceramic periods (Ahlstrom and Roberts 2001b:202; Blair and Wedding 2001). Whether it also had a "stemmed point component" is impossible to say.

Elsewhere in Southern Nevada, stemmed points have been recovered from sites located in the Yucca Mountain Area, Nye County (Buck et al. 1998) (see Intermountain Antiquities Computer System site forms for 26NY3191 and 26NY8062, on file at the Desert Research Institute). Unfortunately, these artifacts were not found in association with materials suitable for radiocarbon dating. In addition, at least one Stemmed Point/Lake Mojave assemblage has been

recorded near Jean Lake, which is south of Las Vegas Valley, and another from a site along California Wash near the Moapa River Indian Reservation (Claude Warren, personal communication 2001 in HRA 2004).

Middle Archaic (5500–3000 BC) and Late Archaic (3000 BC–AD 500) Periods

The Archaic Tradition is characterized by a broad-spectrum adaptation to the animal and plant resources of a Holocene environment with conditions resembling those of the historic and modern-day environment. Jesse Jennings (1957) coined the concept of the Desert Archaic to refer to the Western expression of the American Archaic. His view emphasized the continuity of this hunting-and-gathering adaptation from the Early Archaic period until the adoption of agriculture. In southern Nevada, the earliest clear evidence of this generalized hunting and gathering lifeway does not appear until around 5500 BC, that is, in the Middle Archaic period.

Characteristic artifacts of the Middle and Late Archaic periods include large projectile points that would have been hafted to darts that were propelled with atlatls. Grinding tools appear to be an important part of tool assemblages dating to the Middle Archaic, and they are common in Late Archaic assemblages. The Middle Archaic has also been called the Pinto period, in reference to the Pinto point, and the Late Archaic the Gypsum period, in reference to the Gypsum point (Ezzo and Majewski 1995; Warren and Crabtree 1986). This usage reflects the fact that both Pinto and Gypsum points have been considered useful Archaic temporal markers (Bettinger et al. 1991).

Middle Archaic Sites

Several surface assemblages have been reported from Southern Nevada that date to the Middle Archaic period. Margaret Susia (Lyneis) investigated a Middle Archaic Pinto component as part of the Tule Springs project during the 1960s (Susia 1964). Prior to this, Mark Harrington collected Pinto points from Tule Springs (Ezzo and Majewski 1995:41). Several other sites with Pinto points have been recorded along Duck Creek (Ezzo and Majewski 1995:41; Rafferty 1984:133–137); although no radiocarbon dates were obtained from these sites, they appear to date at least in part to the Middle Archaic. One of the best known Middle-to-Late Archaic period sites in Southern Nevada is the Corn Creek Dunes site (26CK2605), where HRA conducted an archaeological survey and other related studies (Roberts et al. 2003b).

HRA has recently reported on investigations at two Southern Nevada sites with radiocarbon-dated Middle Archaic components. One of these sites, the Flaherty Rockshelter (26CK415), is located several miles north of the Las Vegas Valley, near Apex. A radiocarbon date from the deposits (4220–3800 BC) suggests that the shelter was first utilized during the Middle Archaic period (Ahlstrom and Roberts 2001b:203). A second Middle Archaic site investigated by the Harry Reid Center (HRC) for Environmental Studies, University of Nevada, was 26CK3799. This site was investigated as part of the Northern Beltway Data Recovery Program. It was located on the Eglington Escarpment in scattered dune hummocks and mesquite bosques and included a large scatter of artifacts and fire affected rock clusters that were eroding from the sand dunes. Most of the features were completely eroded, but there were a few that contained ash, charcoal, and evidence of shallow, basin-type hearths (Features 5, 8, 22, 27, and 31) (Blair et al. 2000:Map 4). Radiocarbon samples obtained from three of the features produced dates that fall in the Middle Archaic to early Late Archaic periods. The three features included a hearth

(Feature 8, 2620–2025 BC), a rock-lined hearth (Feature 5, 3335–2925 BC), and a discrete area of stained sediment without a distinguishable pit outline (Feature 20, 5340–4800 BC).

Late Archaic Sites

Late Archaic sites are more common than Middle Archaic sites in Southern Nevada. The most famous site of this period is Gypsum Cave, the type-site for the Gypsum point. The site is located several miles east of the Las Vegas Valley's northeastern edge. Although Harrington (1933), the site's excavator, thought that its Gypsum Cave points were 8,000 years old, wood samples recovered in association with the points have produced Late Archaic period radiocarbon dates of 1371–897 and 762–387 BC (Ezzo and Majewski 1995:43). Gypsum points were also recovered at the Basic site (26CK1098) during excavations conducted by the Navajo-McCullough transmission line project (Brooks et al. 1975). This site occupies a rockshelter in the River Mountains, in the southeastern corner of the Las Vegas Valley. Finally, two Gypsum points (one per site), were found at two sites on Duck Creek (Rafferty 1984:136).

A radiocarbon date from CL-243 at the Corn Creek Dunes site falls within the Late Archaic period (2876–2302 BC). HRA recently obtained a second Late Archaic period date (1000–820 BC) from the Corn Creek site's Locus 1 (Roberts et al. 2003b). The dated sample came from a small roasting pit discovered 53 centimeters below the ground surface.

Flaherty Rockshelter, previously mentioned in the context of the Middle Archaic, produced evidence of an important Late Archaic component (Blair and Wedding 2001; also Ahlstrom and Roberts 2001b:200–203). Ten of the site's 18 radiocarbon dates fall in the Middle Archaic period. Four of the 10 dates cluster in the interval from 1650 to 1105 BC. The site also yielded a number of dart points of types that are consistent with a Late Archaic date, including Gatecliff, Humboldt, and Elko points.

Late Archaic period radiocarbon dates are available from three sites on the Eglington Escarpment. One of the dates (3335–2305 BC) was from a hearth "in a dune area" that was sampled by the Tule Springs Project. The site containing the dated feature was not assigned an official number, though the area containing the feature was identified as the Tule Spring Project's Locus 65 (Haynes 1967:Table 6). The second site with Late Archaic dates was the Burnt Rock Mound site (26CK3601), located on and around an ancient spring mound. The three dates in question (80 BC–AD155; 50 BC–AD 230; AD 330–625) were produced from samples of charred material recovered from what the excavator's interpreted as archaeological (as opposed to geological) contexts (Rager 2001; Seymour and Rager 2001, 2002). The third location on the Eglington Escarpment with a Late Archaic radiocarbon date (AD 92–539) was a large prehistoric campsite known as the Pardee site (26CK3766). The dated sample was from a hearth that was buried 40 to 50 centimeters below the ground surface (White et al. 1989:48–53).

Terminal Late Archaic (AD 1–500)

The end of the Archaic period was a time of change in Native American lifeways throughout the American Southwest. In southern Nevada, this change can be discussed with reference to four categories of archaeological evidence, involving the introduction of ceramic technology, the shift from the atlatl-and-dart to the bow-and-arrow, increased investment in habitation structures, and the introduction of agriculture. In HRA's chronology (Table 1), the Archaic period ends and the Ceramic period begins with the introduction of ceramic technology. Researchers suggest a date of around AD 500 for the introduction of Puebloan ceramics and a date of AD 900 for the

beginning of the Patayan ceramic sequence (Seymour 1997). These dates provide an end point for what HRA refers to as the Terminal Late Archaic period. They place the beginning of this period at AD 1, because the 500-year interval defined in this way takes in all of the evidence that is relevant to the four kinds of change considered important to this period (HRA 2004).

Most evidence for the introduction of pottery and the adoption of agriculture comes from the region east of Las Vegas along the Virgin and Muddy Rivers. It appears that pottery making had appeared among Virgin Branch puebloan groups living in the Moapa Valley of extreme southeastern Nevada and in southwestern Utah by AD 500 (Ezzo 1995; Walling et al. 1986). Farming and, probably, the bow-and-arrow arrived in this region at an earlier date. Evidence for farming comes in particular from radiocarbon dates run directly on samples of maize. A handful of dates from three Virgin Branch sites located northeast of the Las Vegas Valley on the Muddy River—Black Dog Cave, Yamashita Site 2, and Yamashita Site 3—suggest that farming was being practiced in this area by AD 300–400 (HRA 2004).

Some of the most recent evidence relating to the end of the Terminal Late Archaic period in the Las Vegas Valley comes from a pithouse that HRA excavated in Clark County Wetlands Park at Site 26CK1282 (Ahlstrom et al. 2005). The remains of this structure were buried more than 2 meters beneath the historic, though now abandoned, floodplain of Las Vegas Wash. Two samples consisting of charred seeds from the structure's hearth and from a floor or near-floor context produced statistically indistinguishable radiocarbon dates that, together, yielded a mean date of AD 430–600. No pottery was recovered from floor or lower-fill contexts, suggesting that the structure is pre-ceramic in age. The excavated artifact assemblage included two projectile points that were probably, though not certainly associated with the structure's use. Both are Rose Springs style arrow points. While the HRA archaeologists strove to identify evidence of farming through pollen and flotation analysis, no such evidence was recovered. Instead, the samples indicated an emphasis by the pithouse inhabitants on the exploitation of a creosote bush-dominated community with numerous mesquite and acacia plants (Ahlstrom et al. 2005:94). The evidence from this structure is consistent with that from the Muddy River and lower Colorado River in indicating the construction of pithouses and the use of the bow-and-arrow in the period before the advent of ceramic technology.

The Ceramic Period (AD 500–1800)

The introduction of pottery for cooking and storage marks the beginning of the Ceramic period. As previously noted, the bow-and-arrow was apparently introduced to the Southern Nevada region before ceramic technology. The replacement of lightweight basketry with heavier ceramic containers is usually associated with a farming economy and greater sedentism. Because pottery types vary from region to region, and because they correlate with other traits such as architecture and settlement patterns, pottery often forms the basis for defining prehistoric cultures. In the past, the Ceramic period in southern Nevada was defined and subdivided into subperiods and phases with specific reference to the Virgin Branch (Anasazi) cultural sequence, specifically the sequence developed for the Moapa and Virgin river valleys (Ezzo and Majewski 1995; Lyneis 1982a). This temporal and cultural framework does not take into account the strong Patayan presence in Southern Nevada from around AD 1000 to AD 1500 (Seymour 1997, 1999).

Ceramic data suggest that, during the Early Ceramic period, outside contacts were with Virgin Branch culture area, located to the east. Later, during the Middle and Late Ceramic periods, these

contacts shifted to the Patayan area, located to the south. Also during the Middle Ceramic period, Paiute ceramics first appeared in the Las Vegas Valley.

LAS VEGAS VALLEY, EARLY CERAMIC PERIOD (AD 500–1000)

The Early Ceramic period corresponds roughly in time with the Patayan I period in the Patayan cultural sequence, the Basketmaker III and Pueblo I periods in the generalized puebloan (Anasazi) cultural sequence, and the Muddy River and early Lost City phases in the Moapa-Virgin Valley, Virgin Branch cultural sequence. The earliest ceramics identified in the Las Vegas Valley are a handful of Virgin Branch potsherds that predate AD 1000. As reported by Seymour (1997), these sherds came from the Duck Creek area (Seymour 1997:Figures 11 and 15), from the Burnt Rock Mound Site (26CK3601) in North Las Vegas, and from the Big Springs sites (Seymour 1999:192; Roberts et al. 2003b).

A radiocarbon sample recovered from the floor of a structure excavated at the Big Springs site provided a radiocarbon date of AD 530–710 (Seymour 1999:192). At Burnt Rock Mound (26CK3601), located on the Eglington Escarpment, three radiocarbon dates fall within the range of the Early Ceramic period (650–885, 670–870, and 680–1020) (Rager 2001; Seymour and Rager 2001, 2002). Other sites with radiocarbon dates placing them within the Early Ceramic period include locations at the northeastern edge of the Las Vegas Valley near Apex, and in the Upper California Wash area. A date of AD 540–690 was obtained from a hearth at site 26CK4440 (York et al., 1992), and four sites in the California Wash date at least partially to the Early Ceramic period, with dates ranging from AD 260–1260 (Brooks et al. 1975; Blair 1986).

LAS VEGAS VALLEY, MIDDLE CERAMIC PERIOD (AD 1000–1500)

According to HRA, the Middle Ceramic period is the best represented subdivision of the Ceramic period in southern Nevada. It corresponds roughly in time with the Patayan II period in the Patayan cultural sequence, the late Pueblo II and Pueblo III periods in the Puebloan/Virgin Branch cultural sequence, and the late Lost City and Mesa House phases in the Moapa–Virgin Valley, Virgin Branch cultural sequence. Typically, Patayan and Anasazi ceramic types dating to this interval are equally represented in artifact assemblages, which may reflect interactions between these groups (HRA 2004). During the later part of the period, however, Virgin Branch ceramics decrease in number as Patayan and Paiute varieties increase. This shift is undoubtedly related to the 13th century abandonment of the Moapa and Virgin River valleys by Virgin Branch people. Many archaeologists believe that the Southern Paiute arrived in the region during or soon after this event. Most of the sites in southern Nevada that date to the Middle Ceramic period are located near springs and other well-watered locales.

Williams and Orlins (1963:Appendix A, Table 3) described a wide variety of Virgin Branch ceramics that were collected from the vicinity of the Corn Creek Dunes Field Station (CL-242) including Aquarius Brown, Boulder Gray, Lino Gray, Medicine Black-on-Red, Moapa Gray, North Creek Black-on-Gray, North Creek Corrugated, North Creek Gray, Pyramid Gray, Shinarump Brown, Southern Paiute Brown, St. George Black-on-Gray, Tusayan Black-on-Red, Washington Corrugated, and Washington Gray. These ceramic types span the Early and Middle Ceramic periods. During HRA's recent survey of the Corn Creek Dunes site (Roberts et al. 2003b), potsherds dating to the Middle Ceramic period were identified at one locus (Locus 26), and other sherds that may date to this period were found at another locus (Locus 1, Middens 3 and 5).

Additional Middle Ceramic period radiocarbon dates are available from the Eglington Escarpment. Archaeological deposits at Burnt Rock Mound (26CK3601) yielded six dates with ranges falling entirely or predominantly in this period (AD 980–1195, 1250–1420, 1300–1430, 1300–1430, 1310–1440, and 1310–1638; Rager 2001:Table 4). As part of the Tule Springs project, three additional dates were obtained from hearths in the area. Two of the dates apply to features buried near the base of Haynes' depositional Unit G (AD 1071–1409 and 1280–1466). A third date of AD 1020–1278 was obtained from "aboriginal hearths on spring mound" (Haynes 1967:74).

Other dates came from 26CK3799, a campsite previously discussed in the context of the Paleo-Archaic and Middle Archaic/early Late Archaic periods. Three hearths or small roasting pits at this site produced Late Ceramic period radiocarbon dates. Features 40A and 40B were located just 3.5 meters apart and produced statistically indistinguishable dates (AD 1235–1390 and 1275–1400), suggesting that they were used as part of the same encampment. A third hearth (discovered 1 meter from Feature 40A), may also have been contemporaneous with the other two features. A flotation sample from either Feature 40A or 40B contained abundant *Prosopis* (mesquite) charcoal as well as a small amount of *Acacia* charcoal. Both categories represent the remains of fuel that was used in the feature. Feature 27 (AD 1290–1425) was located in a different area of the site. A flotation sample from this hearth or small roasting pit contained a charred *Yucca schidigera*-type seed fragment, suggesting that a fleshy yucca fruit may have been processed in the feature. Also present was fuel-wood charcoal, primarily *Prosopis*, but with some *Acacia* and *Atriplex* (saltbush) also present (Blair et al. 2000).

Big Springs, a well-watered site toward the center of the Las Vegas Valley, contained habitation features. Seymour (1999:172) reports that, in 1920, a local physician, Dr. William S. Park, excavated a five-room, multi-occupation pueblo in this locality. A prehistoric adobe feature located near a spring mound at Big Springs and associated with Virgin Branch ceramics may be the remnant of a second pueblo. Finally, there may have been a third pueblo located near the intersection of Interstate Highways 15 and 95 (Gregory Seymour, personal communication 2000 in HRA 2004).

The Duck Creek drainage contains many sites dating to the Middle Ceramic period. The Berger site (26CK501/1528), for example, yielded five calibrated radiocarbon dates that fall entirely or predominantly within this period (AD 1188–1385, 1245–1410, 1294–1432, 1296–1435, 1279–1472) (Seymour 1997:Table 10). Some of the sites investigated on Duck Creek have produced evidence of habitation structures and cultivated plants. At Site 26CK1445, Rafferty (1984:76) reported a depression that resembled a semi-subterranean habitation structure. Seymour identified Patayan II (the most abundant category) and Patayan III types as well as Pueblo I and Pueblo II types in the ceramic collections from this site (Seymour 1997:Tables 13 and 14). The Patayan sherds slightly outnumbered Virgin Branch sherds (Seymour 1997:Table 12). Evidence of cultigens consists of pumpkin/gourd seeds, a corncob, and a corn kernel that were recovered from the Berger site. Abundant burned tortoise bones were also found there.

Numerous other Late Ceramic period sites are known for the southern Nevada region. These include sites near Apex, in the California Wash, and at Clark County Wetlands Park. For more information on these sites see HRA (2004).

LAS VEGAS VALLEY, LATE CERAMIC PERIOD (AD 1500–1800)

The Late Ceramic period corresponds to the Patayan III period in the Patayan cultural sequence. Evidence of Patayan influence, in the form of Patayan ceramics, continues into the Late Ceramic period. The frequency of Patayan ceramic types decreases; however, in favor of Southern Paiute Brown Ware, which first appeared sometime during the Middle Ceramic period. The use of ceramics, both Paiute and Patayan varieties, suggests the practice of horticulture around springs and well-watered locales.

During HRA's recent survey of the Corn Creek Dunes site (Roberts et al. 2003b), the survey crew recorded Southern Paiute Brown Ware throughout the project area, suggesting fairly extensive use of the site by Southern Paiute people. A scraper made of glass hints that this use continued into the early Historical period. Paiute Elders tell stories of relatives who lived in the Corn Creek area in the early 19th century.

Site 26CK415 in the Apex Area, 26CK3601 (Burnt Rock Mound) on the Eglington Escarpment, and the Berger site on Duck Creek have yielded Late Ceramic period radiocarbon dates. There are three of these dates from the Flaherty site (1425–1635, 1440–1640, and 1440–1650); seven from Burnt Rock Mound (AD 1400–1620, 1430–1645, 1440–1650, 1450–1660, 1455–1665, 1520–1950, and 1715–1885); and one from the Berger site (26CK501/1528) on Duck Creek (1421–1632) (Ahlstrom and Roberts 2001b:200–203; Blair and Wedding 2001; Seymour 1997:Table 10; Rager 2001:Table 4).

Late prehistoric presence is documented at numerous other sites within and surrounding the Las Vegas Valley. A complete summary can be found in HRA (2004).

Historical Paiute, Chemehuevi, and Mohave (1600–1905)

Paiute

Elizabeth von Till Warren describes the subsistence practices of the historical Paiute in HRA's report in support of the Las Vegas Disposal Boundary EIS (2004). She indicates that the Southern Paiute people inhabited the Las Vegas Valley and surrounding areas throughout the Historical period, and until around 1850 they were the valley's primary inhabitants. The following is excerpted from her work in that document.

> The subsistence pattern reflected in the incomplete record of the late prehistoric and protohistoric Southern Paiute people suggests that the Las Vegas Paiutes adopted a different strategy than the commonly pictured, exclusively nomadic lifeway. Las Vegas Valley Southern Paiutes lived in an unusually productive eco-zone, with ample water resources that supported a wide variety of edible native plants and, most importantly, numerous and in places extensive mesquite forests. Within the short distance of 20 miles from the valley floor, in the foothills of the Spring Mountains and other nearby ranges, grew substantial numbers of pinyon pines (*Pinus monophylla*), agaves (notably *Agave utahensis*), and Joshua tree (*Yucca brevifolia*) forests, interspersed with Mojave yuccas (*Yucca schidigera*) and other higher elevation plant resources, along with their associated fauna. The soil adjacent to the creeks and springs of the valley was suitable for horticulture, and the mesquite groves nearby produced a never-failing supply of edible, storable beans. The combination of rich resources located on the valley floor, which stimulated the growth of horticulture, and the collectible wild flora and

> fauna of the mountains close at hand made it possible to diverge from the seasonally based collecting rounds anthropologists usually portray for this area. The seasonal round of the Las Vegas Paiutes had two fulcrums, one based in the valley, the other in the mountains. The loop based in the valley was dictated by the need to prepare and plant gardens, tend them, and harvest the produce, all augmented by the seasonal ripening of mesquite beans. Las Vegas Paiutes would camp at their spring sites during planting season, visiting their gardens to irrigate and control predation by animals and others. The second loop describes the period of movement to the foothills and higher mountain elevations in the warmer months and early fall, to gather, process, and store wild foods, including agave and pine nut "crops." The excursions to the mountains headed to particular groves of trees or clusters of agaves or yuccas, entailing seasonal use of the same camps over many years. At the same time, the tie to the valley camps would also be maintained, and there, too, the campsites previously used would be revisited. Archaeologist Claude Warren termed this a "double loop" subsistence strategy (C. Warren 1981) (E.V.T. Warren in HRA 2004).

Chemehuevi

The Chemehuevi are usually described as an off-shoot of the Las Vegas Paiute. They occupied the region between the Las Vegas Paiute and the Mojave. Strongly influenced by the Mojave, they took on traits such as vocabulary, floodplain farming, earth-covered houses, songs, emphasis on dreams, and a complex of elements related to warfare (Laird 1976). They also adopted the squared metate, balsa rafts, ferrying pots, ceramic forms and ornaments, paddle-and-anvil pottery techniques and hair dye. Kelly and Fowler (1986) (recount that some sources indicate that generations ago, before the Chemehuevi and Las Vegas separated and Chemehuevi acquired separate identity, they exterminated the Desert Mojave and moved into their territory (Kroeber 1959; Roth 1976).

Yumans (Mojave)

The ancestors of the Mojave (known archaeologically as the Lowland Patayan), have lived along the Colorado River since about AD 500. When Europeans first came up the river in 1604, they encountered many Mojave. These groups practiced a form of floodwater farming, growing crops such as pumpkins, squash, corn, beans, sunflower, and amaranth. After contact, they also grew introduced crops such as wheat and watermelon (Fowler 1999). There is growing evidence that the Mojave utilized portions of the Las Vegas Valley along the Las Vegas Wash. Evidence for horticulture there has not been forthcoming and Seymour (1999) believes that the collection of wild foods was probably the primary strategy. A series of reports by HRA provide increasing data indicating a substantial Mojave presence along the lower Las Vegas Wash (Ahlstrom and Roberts 2001a; Roberts and Ahlstrom 2000; Woodman, Roberts, and Ahlstrom 2001; Woodman, Ahlstrom, and Roberts 2003).

Historical Euro-American (1600–1950)

While exploration of the Lower Colorado River region began as early as 1540, the Spanish explorers found the river inhospitable and did not attempt any permanent settlement along its banks until the early 1800s (Weber 1944).

Exploration (1604–1855)

While the Spanish had explored the Colorado River in 1604, it was not until 1829 that the first Euro-Americans came into Las Vegas Valley. In 1829, Antonio Armijo and a caravan of 60 men leading 100 mules laden with woolen goods, pioneered the route that came to be known as the Old Spanish Trail. The trail was a pack mule route that linked Santa Fe, New Mexico with Los Angeles, California. The immediate stimulus for the trail was the expansion of trade between Santa Fe and St. Louis via the Santa Fe Trail, which created demand for robust animals to pull wagons and provide human transportation between the American west and midwest. Later, the trail and its many variants sustained the period of American expansion westward, the Gold Rush, and Mormon settlement in the region. When the Gold Rush began in 1849, maps showing the route were tucked into many a wagon box for later reference as the American pioneers trekked to California. The mules and horses gave way to freight wagons and light carriages and the old trail became a road for Mormon pioneers between Utah and California. The Mormons built a small fort in Las Vegas in 1855 to support the faithful in their travels (Roske 1986).

Prospecting and Mining

According to local lore, Spaniards, Mexicans and Native Americans prospected the Eldorado Range for 150 years before Euro-Americans discovered the area. Steam driven stern-wheel paddle boats came up the Colorado beginning in 1852 making the region more accessible to those seeking to get rich quick. However, few roads crossed the miles of desert and the mule was the prospectors main mode of transportation.

Eldorado Valley Mining (1863 to 1941)

Located about 39 miles southeast of Las Vegas in Eldorado Canyon is one of the earliest mining districts in southern Nevada. According to local legend, Indians and Spanish explorers exploited the mine for years before Mormon miners made discoveries in the canyon and commenced mining. By 1863 prospectors and promoters had laid out four townsites in the canyon and excitement was high despite the remote location of the mines. It took six months for supplies to come from San Francisco; flatbottom steamers carried the cargo the last leg of the journey from Yuma, Arizona and often more than a month passed between steamer visits. The remote camps were part of Arizona territory until 1867, a ten-stamp mill started running near the mouth of Eldorado Canyon in 1864 which reduced the amount of overland ore shipments by way of Los Angeles to San Francisco smelters. The mill was constructed of old machinery and the mill lost values in tailings, so another of similar size was built in the spring of the next year. In 1865 a post office was established and during 1867-1869 the army maintained a military post near the mill to aid in steamboat promotion and to watch over neighboring Indians. During its early years, Eldorado was a very rough and lawless camp. The sheriff was nearly 300 miles away through inhospitable desert, so the locals typically formed posses and vigilante groups to capture and punish wrongdoers (Paher 1970:280). During the Civil War, deserters from both the Union and Confederate armies would wander there, hoping that such an isolated location would be the last place military authorities would look for them (http://en.wikipedia.org/wiki/Nelson%2C_Nevada).

After 1905 the district underwent a revival and the townsite of Nelson was platted seven miles west at the head of Eldorado Canyon, and old Eldorado was abandoned in favor of the new site. A fifty-ton smelter was constructed a half-mile below Nelson but produced only limited amounts of lead before blowing up in 1909. Production lagged for the next twenty years but Nelson fought its way back in the mid-1930s when operations resumed. A paved highway was extended

to the town and trucks transported their loads to rail shipping points. By 1941 the population had reached a stable 600 and three cyanide mills treated 230 tons of ore daily. Labor costs finally forced closure of the mines in 1941. Production is estimated to be as high as ten million dollars (Paher 1970: 280).

Today, the site of old Eldorado is submerged under Lake Mohave. Ruins of the Techatticup mine, several other old mines and other buildings remain at Nelson. Nelson's Landing, about five miles west in Eldorado Canyon, is noted for washing into Lake Mohave in 1974 after a strong downpour in the regional mountains sent the runoff down the channels and produced a flash flood. There are five wide channels that run from the local mountains toward the river. The problem is that they all converge into a small outlet where Nelson's Landing was. The entire landing and village was destroyed and nine people died when the flood came through the wash. The wall of water and debris was reported as about 40 feet (12 meters) high as it reached the river (http://en.wikipedia.org/wiki/Nelson%2C_Nevada).

The Development of Searchlight (1897 to Present)

Given the early development in Eldorado Canyon, prospectors abounded in the region. About 55 miles south of Las Vegas, veteran prospector G. F. Colton discovered an exposed gold vein in May of 1897 near ground which had been initially located in the early 1890s. The gold assayed as high as $2900.00 per ton and additional prospectors flooded the region. In July 1898, a district was organized and by October a camp with a post office was established three-quarters of a mile west of the present townsite. The district became populated after a rush in the following winter. The next year Boston interests acquired important properties with "picture rock" and incorporated the Quartette Mining Company. Other mining companies also formed; the duplex mine was organized around the Searchlight claim.

At first, ore had to be shipped by wagon to Manvel, California for rail delivery to a smelter at Needles. Costs were reduced when the Quartette company built a twenty-stamp mill on the Colorado River in 1900 and further savings were realized when a narrow gauge railway began shuttling between mines and mill in May 1902. The next month a weekly newspaper began beaconing the news of the burgeoning camp and several tent saloons sprang up. Despite strikes by mine workers, development continued through 1903. A second twenty-stamp mill was built in Searchlight when a water supply was discovered, and the mill on the river was moved to Searchlight in 1906. The boom peaked in 1907 when the camp featured two competing newspapers, well-furnished stores, over a dozen saloons, a telephone exchange, 44 working mines, several mills, an active chamber of commerce, and a population of up to 5000 (Paher 1970: 280-284). The panic of 1907 hit the district severely because rich ore bodies had been worked out and low-grade ores required additional capital for continued development. Production dropped drastically after 1910 and leasers replaced the large mining operations. Many families moved to Las Vegas although a small population stayed in town and reworked the tailings. Today early twentieth-century buildings mix with modern structures in the town of Searchlight. The town exists mainly as a stop along the highway where travelers can buy gasoline and get a bite to eat as they head to Laughlin or southern California.

Dam Building and Power Plants (1878–Present)

Settlement in most of the arid west required a steady and dependable water supply for irrigation and for domestic use in cities. In 1878, John Wesley Powell sent a report to the Department of

Interior delineating settlement plans based on topography and river basins rather than the traditional grid. Powell envisioned small, private, independent irrigation cooperatives working together to ensure an adequate water supply (ACRE and HRA 2004). However, there were problems with irrigation projects developed by small companies. By 1900, many private irrigation firms faced bankruptcy and there was an increasing belief that the federal government should take a hand in western irrigation projects. During the Progressive Era (1896 to 1919) political and social reform curbed the power of big business and placed the government in control of many natural resources, including water. President Roosevelt signed the National Reclamation Act in 1902, authorizing the Secretary of the Interior to construct irrigation projects in 16 states and territories. Subsequent to the Reclamation Act came the concept of multiple-purpose planning. Planners realized that irrigation projects could be combined with riverine navigational improvements, flood control, and the generation of electricity. While power plants had not been part of the original scheme, Reclamation recognized the potential and passed the Town Sites Act of 1906, authorizing the sale of excess power generated at Reclamation dam sites to companies and towns (Western Area Power Administration 2002:6). By 1914, 11 power plants were in operation on Reclamation projects and the sale of electricity had become a factor in repaying the cost of constructions of Reclamation projects. In further action to restrict monopolies, Congress passed the Federal Water Power Act in 1920 authorizing the Federal Power Commission to withdraw and regulate potential hydroelectric power sites on navigable waterways.

The Boulder Canyon Project, authorized in 1928, was the first large multipurpose dam and reservoir on the Colorado River. Despite the impact of Hoover Dam upon Southern Nevada, its origins had little to do with the state. Designed to control the Colorado River and to allow for vast irrigation schemes downstream, Hoover Dam was envisioned as a way to develop the agricultural potential of the Imperial Valley (Ezzo 1995). Planning began as early as 1919 when seven states within the Colorado River basin met to discuss water use and form the "League of the Southwest" (Belshaw and Peplow 1980). These states formed an agreement calling for construction of the Colorado River high dam and a new All-American Imperial Valley canal (Jones and Cahlan 1975). The Swing-Johnson bill brought the terms of the agreement before Congress in 1923, but approval did not occur until 1928. Even before the bill was passed utility companies began lining up for the benefits that would accrue from the massive project. Southern California water and electric companies had plans and funding in place in advance of dam construction to divert water and power to the growing region. All of the water and electricity were allocated before any construction began.

In June 1929, six months after the Boulder Canyon Project Act was signed into law, the first federal money was spent as Reclamation set up offices in Las Vegas and began putting together estimates for bids that would be sent out in 1930. In June 1930, work began on support facilities such as a rail connection, a highway from Las Vegas, a cable system over the canyon, and an 88,000-volt transmission line from San Bernardino to supply power (Ezzo 1995). Las Vegas boomed despite the economic depression that was deepening across the rest of the nation, and soon plans to build a community to house workers were on the drawing board. As people flocked to the area a series of camps sprang up close to the dam site in the areas known today as Hemenway Wash and Railroad Pass (Furnis 2003). In 1931, the bids were all in and the low bidder was found to be Six Companies, Inc. Despite severe weather and labor difficulties, work on the townsite for workers (Boulder City) and diversion tunnels were complete by fall of 1932 (Dunbar and McBride 1993). The tunnels allowed water to be diverted and coffer dams

constructed to keep the construction area free of water. Preparation of the dam bed began in June of 1932 and was complete by spring of 1933 and cement pouring commenced in June 1933. Round-the-clock pouring continued until May 1935. Every stage of dam construction progressed swiftly, and the dam was completed 2 years ahead of schedule.

Infrastructure (1935–Present)

Once the dam was complete, electrical work had to be finished before the power plant generators could go on line. By 1935, the "Boulder Power Transmission System" was almost complete with lines stretching between Hoover Dam and Los Angeles. The system was activated in October 1936. The first dam generator was activated at that time and more and more generators came on line during the late 1930s. Lines were extended to the Las Vegas Valley during this time, although there is little information available regarding the timing and exact routes.

During the Great Depression, the Southwest grew slowly as people who had lost everything in the "dust bowl" region headed west looking for jobs and a brighter future. In 1931, a small company began selling gas in the southern California towns of Barstow and Victorville. Southwest Gas grew steadily over the next 20 years. When Pacific Gas and Electric Company built a high pressure natural gas transmission line from San Francisco to the Arizona border, Southwest Gas recognized the growth potential offered by this delivery method, and tapped into the line, converting its system to the more marketable fuel system in 1951. Three years later, the company expanded its system bringing natural gas to central Arizona and to Las Vegas http://www.southwestgas.com/about/aboutus/history.php.

The first transmission lines in the Eldorado Valley extended from Hoover Dam to provide power to southern California. Later, other lines were installed across the valley to provide power to local and regional markets. The first of these lines was installed in the mid 1970s. The Navajo-McCullough 500 kV (kilovolt) line extends from the McCullough switching station in Eldorado Valley to the Navajo transmission line right-of-way northeast of the Las Vegas Valley in Lincoln County. The Eldorado-Kaiparowits line was built in the late 1970s, and the Intermountain Power Project line was constructed in the mid 1980s.

Power generation continues to be a key theme in use of the Eldorado Valley today. Nevada Solar One is advertised as the largest concentrated solar power plant in the world, with a nominal capacity of 64 MW and maximum capacity of 75 MW, as of June 2007.

Transportation Routes

The Mojave Desert was an extreme impediment to early travelers in the area. For a long time the best way to access the area was to travel up the Colorado River. Steam driven stern-wheel paddle boats came up the river beginning in 1852 making the region more accessible to those seeking to get rich quick. However, the only route crossing the desert was the Old Spanish Trail/Mormon Road, which followed the limited water sources across the desert from Las Vegas to Los Angeles.

Historic maps indicate that the first roads in Eldorado Valley probably developed as part of the mining boom in Eldorado Canyon. Wheelers 1872 survey map shows a road extending from Las Vegas to the mines in Eldorado canyon at that time.

By 1907, the Las Vegas to Eldorado Canyon road had been extended to Searchlight as reported in a newspaper article. At that time, individuals were driving existing roads to document them

for automobile clubs (Las Vegas Age, December 14, 1907). During this period, the automobile was beginning to become a popular mode of transportation and various vehicle "trails" crisscrossed the landscape, even the remote reaches of southern Nevada. These trails were a product of the pioneer days of auto travel when government provided little assistance for roads, and many people still made longer trips by train. Some of these trails were named on maps in the late 1800s, and by the early 1910s automobile promoters assembled associations to name transcontinental routes such as "The National Old Trails Road" (Baltimore to Los Angeles), and the "Lincoln Highway" (New York to San Francisco). Boosters often selected routes over existing roads, gave the road a colorful name, formed an association to promote the trail, and collected dues from businesses and towns along the way. The associations published trail guides and newsletters to promote their route, and promoted local-government bond sales to improve the primitive roads section by section. The number of American automobiles skyrocketed during the period from 1910 to 1920. In1910, fewer than 50,000 vehicles were registered in the U.S., but by 1920 nearly 10 million were on the nation's record books. By 1918 all 48 states had created highway departments to channel federal grants and promulgate standards for highway construction, linked by the American Association of State Highway Officials (AASHO). In the early 1920s, highway signs were standardized according to shape, and the red/yellow/green sequence for illuminated lights was adopted. The old trail associations had named over 250 routes, but in November 1926 AASHO members adopted the new U.S. numbered highway system, effectively ending the influence of he trail associations but largely accomplishing their missions (Weingroff 1997:2-5).

By 1926, the Searchlight Road had assumed its present course through Eldorado Valley and had been designated Highway 5 according to a Rand McNally and Company California – Nevada Pocket Map dated that year. The road has become part of the modern highway system.

PREHISTORIC RESEARCH GOALS

The research goals presented here reflect issues critical to understanding the prehistory and history of the Eldorado Valley. These themes are not exhaustive, but are designed to address issues defined for the project area. Prehistoric research contexts particularly applicable to southern Nevada include themes developed in the archaeological element of the Statewide Plan (Lyneis 1982b), and in Ezzo's (1995) Class I study for the Southern Nevada Water Authority. Recent research has identified additional topics important to understanding Southern Nevada prehistory. Some of these are described in Ahlstrom and Roberts (1999); Gilreath 2003; D. Seymour et al. (1996); G. Seymour et al. (1998); and King, Young, and Ruby (2003). Prehistoric research goals include: Settlement Pattern Studies, Subsistence Systems, Past Environments and Geochronology, Trade and Exchange, Ideology and Belief Systems, and Chronology and Past Ethnicity.

Settlement Pattern Studies

Settlement patterns define the way people lived on and used the landscape, and settlement pattern studies are a primary consideration for understanding past lifeways. Great Basin and Nevada settlement studies have been highly influenced by Steward's 1938 work among ethnographic populations. More recently, research has focused on Binford's 1980 model of the forager-collector continuum. This model distinguishes between "foragers" who employ a number of residential base camps while also moving as a community to resource areas daily and who employ little storage (Binford 1980:5) and "collectors" who utilize a more stable residential base camp but send out specialized groups to procure specific resources in bulk and return. These latter groups also employ storage as a strategy (Binford 1980:10). A major application of Binford's model to the archaeological record is in the identification of site types (residential base, location, field camp, station, cache, etc.) based on the type and number of activities at the site (Binford 1980). The statewide context identifies testing this model as a primary goal (Lyneis 1982b:13–14). Other Nevada researchers have noted the importance of settlement studies, particularly in determining site types and functions. Specific questions that have been developed for Southern Nevada include whether ground stone correlates with fire-cracked rock in a way that can be used to infer site function (Dames and Moore 1997:15), whether site locations vary in relation to environmental factors or are related to raw material sources (Ezzo 1995:135–137), and whether rockshelter and lithic procurement sites were used at the same time (Ahlstrom and Roberts 1999:119–120).

Data Requirements—Settlement Patterning

In order to answer questions about settlement patterning, a site must contain data that can indicate both the time and nature of occupation. Diagnostic artifacts and/or materials that can be radiocarbon or otherwise dated are necessary to provide a temporal framework, while various data classes are required to answer specific questions. To test correlations between groundstone and fire-cracked rock both artifacts should be present; to understand the relationship between site locations and environmental factors or resource availability, both site location information and data on the past environment and available resources around a site must be available. To test whether rockshelter and open lithic scatters were occupied at the same time, chronological information needs to be associated with both occupation types.

Subsistence Systems

Subsistence strategies and settlement patterning are closely related, although the bodies of data needed to answer questions about them should be examined separately. The statewide context argues that researchers should pay more attention to identifying direct evidence of subsistence strategies as well as to testing models of subsistence systems with archaeological data (see Thomas 1973). Until recently, there has been little direct evidence of the nature of subsistence practices in southern Nevada. Subsistence practices during the Archaic period are virtually unknown, and many questions relating to later periods remain unanswered. The degree that certain resources (e.g., pinyon, mesquite, and yucca) were utilized during the various periods is unknown (Lyneis 1982b), and whether exploitation of resources was embedded in other practices remains to be understood (D. Seymour et al. 1996). The timing and cause of the exploitation of domestic cultigens (Ezzo 1995:133–135), the role of mesquite exploitation, whether there was a focus on the exploitation of certain mammals (desert tortoise, mountain sheep) are questions that remain poorly understood.

Data Requirements—Subsistence Systems

As can be expected, data for addressing the subsistence systems context is primarily subsistence data. These data include faunal remains, botanical remains, palynological remains, and coprolites. Such remains would need to be present at a site to address this context.

Past Environments and Geochronology

Because the environment forms the background, and in many cases, the underlying conditions for human cultural behavior, an understanding of past environments is crucial for interpretation of past behaviors and activities in the Las Vegas Valley. Several lacks are identified in the statewide context. A large-scale paleoenvironmental record for Nevada is lacking as well as local records for the late Quaternary. The statewide context recommends placing priority on obtaining faunal, floral, sedimentological, geomorphological, and geochronological information to enhance our understanding of paleoenvironmental sequences in the area (Lyneis 1982b:17). Previous research has identified the need to further our understanding of past climatic change. In particular, studies focusing on the establishment of desert scrub vegetation at lower elevations as well as the lower limit of pinyon-juniper growth during the past are particularly relevant as these zones provide a number of resources to humans occupying them (Lyneis 1982b:168–169). Additional pollen studies are also recommended for Southern Nevada (Kelly et al. 1990:91; Lyneis 1982b:169).

Data Requirements—Past Environments and Geochronology

Evidence of past environments can be derived from floral and faunal species, sedimentological evidence and geomorphological evidence. Floral and faunal remains can include bone assemblages, botanical assemblages, and pollen assemblages. Useful paleoenvironmental reconstructions require assemblages that are derived from sources that are not biased by human selection, i.e., packrat (*Neotoma* sp.) nest rather than a bison kill site. Fine-grained organic sediments in sequence, (such as lake and relict lake sediments or stratified fluvial sedimentary records) and packrat middens are also useful for addressing the paleoenvironmental context.

Trade and Exchange

Trade and exchange of a wide variety of raw materials and finished goods occurred over a large portion of the prehistoric period and involved, in some cases, contacts between distant groups. Trade and exchange relate to a variety of cultural factors including economic activity, ethnicity, and political structures. The form and nature of trade and exchange can vary according to a variety of factors, and can therefore reveal many aspects of past economies, cultures and politics. The statewide context identifies trade and exchange as a major research topic. Methodological questions such as determining the means of identifying trade goods and the means of distinguishing trade from direct acquisition in the archaeological record are important. Processual topics such as the structure of trade (down-the-line, hierarchical, etc.), identifying changes in the size of exchange networks and the traded goods, determining whether different goods circulate in different exchange networks, determining the factors that condition the value of trade goods, and the identifying role of ethnolinguistic boundaries in structuring trade are also important issues (Lyneis 1982b:25–26). In Southern Nevada, the presence of obsidian, ceramics, and shell beads from distant sources has been used to establish the presence of trading networks in the area (Lyneis 1982b:172). The quantities of these materials vary over time, suggesting changes in the nature and extent of exchange networks. Specific questions include whether obsidian was exchanged (Kelly et al. 1990), whether imported plainware ceramics affect local plainware manufacture (Ezzo 1995:140–142), and whether export good procurement patterns can be identified (Ezzo 1995:140–142).

Data Requirements—Trade and Exchange

In order to understand the processes of trade and exchange, potential trade goods must be identified. In southern Nevada trade items include non-local lithics such as obsidian, non-local ceramics, beads, pendants, shell, turquoise, and other rare goods with limited distributions. Obsidian is particularly valuable because through X-ray spectrometry the source location of different types can be determined. The source location of ceramics can similarly be identified through analysis of distinctive tempers. However, the mere presence of trade goods is not enough to understand exchange processes. Because change over time is a major issue, and because potential trading partners must be contemporaneous, it is important to be able to associate trade goods with specific chronological information. It is also important to have information on the context of trade goods, such as features, houses, trash pits, etc., in order to investigate the social contexts in which these goods circulate.

Ideology and Belief Systems

While ideological systems pervade all aspects of cultural behavior, the material record of such systems is often difficult to recover and interpret. This is particularly the case with highly mobile hunters and gatherers such as the groups who occupied Southern Nevada through much of prehistory. Nonetheless, because of the crucial role of these systems in structuring cultural behavior, it is important to attempt to compile as much information as possible about the role of belief in the structuring of human life in the region. The statewide context has identified ideology and belief systems as a research focus (Lyneis 1982b:24). Artifacts and features considered relatively direct evident of ideology and belief systems include split-twig figurines, rock art such as pictographs and petroglyphs, portable art such as carved stones (see Thomas 1983) and carved

bones (see Stettler 1998), design elements on ceramics (see Crown 1994), and rock alignments and intaglios.

Data Requirements—Ideology and Belief Systems

Although to a certain degree, no cultural artifact is ideology free (Asad 1979; Hodder 1986; Joyce and Winter 1996; Miller and Tilley 1984), direct links between artifacts and ideology are most easily observed through artifacts and features that have little or no economic function. Thus, sites with rock art, split-twig or other figurines, carved stone or bone artifacts, fetishes and miniatures, or large assemblages of decorated pottery have the most potential to address these issues. Rock alignments and trails may also provide information relating to ideology and belief systems, although how these features functioned within prehistoric ideology and belief systems is not well understood. If such artifacts or features can be associated with other classes of data and therefore have the potential to address in a holistic manner the relationships between ideology, economy, and other aspects of past societies, the value of the data increases greatly.

Chronology

Good chronological control is necessary to address many research questions. Many researchers have identified a need to refine the cultural chronology for the Great Basin region in general, and southern Nevada in particular (Ahlstrom and Roberts 1999:115; Ezzo 1995; Kelly et al. 1990; Lyneis 1982b; D. Seymour et al. 1996; G. Seymour et al. 1996). Chronological studies include projectile point chronology, obsidian hydration dating, dendrochronology and ceramic chronology.

While the projectile point sequence developed for the Great Basin as a whole (see Hester 1973; Hester and Heizer 1973; Holmer 1978) functions fairly well at a broad scale (see Paleo-Indian, Archaic, Post-Archaic), more work is necessary to refine this chronology. In particular, the chronological development of Elko series projectile points as well as the stemmed point and Pinto point sequences require further investigation (Kelly et al. 1990; Schroedl 1995). Attempts to systematize classification of projectile points have met with success in other areas of Nevada (Schroedl 1995; Thomas 1981). Similar studies have not been carried out in the project area, and regional studies are necessary because of variation in the form and timing of projectile points across the area.

Obsidian hydration dating, which relies on the systematic uptake of environmental humidity by volcanic glass, has the potential to increase our ability to assign dates to sites lacking other chronological information (Michels 1986; Stevenson et al. 1989). However, care must be used in applying obsidian hydration rims to absolute dates because of the ways in which the chemical composition of different obsidian types and regional environments can affect uptake of water (see Ridings 1996). To date, the most successful applications of obsidian hydration dating in the Great Basin region have relied on relative dating, correlated with time periods, rather than determination of absolute dates (Jones and Beck 1990; Schroedl 1995). Several researchers stress the need to develop a relative obsidian hydration chronology for the Southern Nevada region (Ezzo 1995:132; Kelly et al. 1990:90).

Stylistic and manufacturing-related changes in ceramics have long been used as chronological markers for archaeological research. Ceramic chronologies developed for the Virgin/Muddy River region and the Las Vegas Valley are based on cross-dating with Kayenta Branch pottery. To develop useful chronologies for these regions further refining of the local ceramic sequence

and understanding of local pottery is needed. Such refinement will provide greater understanding of the timing of occupations in the area (Ezzo 1995).

Data Requirements—Chronology

Data to assist in refining the local chronology includes projectile points, obsidian, materials suitable for radiocarbon dating (carbonized wood, botanical materials, and other organic materials with high carbon content), materials suitable for dendrochronology (preserved wood in archaeological contexts), and ceramics. To address the chronology question directly, these materials must be present in ways that could be used to refine the chronology. In other words, while a diagnostic projectile point on a site might assist in dating that individual site (and might in fact lead to an eligibility determination for that site under other contexts), unless the point is associated with other information that can be used for dating and for refining the chronology, the single point cannot be used to address the chronology research question. Thus, in general, combinations of chronological markers must be present at a given site in order to provide information that could refine the projectile point, obsidian hydration, and ceramic chronology, or contribute towards subdividing existing chronological periods. An exception would be sites with large assemblages of projectile points or ceramics where detailed studies of projectile point morphology or ceramic decoration could lead to refining these chronologies.

Past Ethnicity

Although not specifically identified in the statewide context, the issue of past ethnic group distribution and interaction is a significant one for southern Nevada. A number of archaeologically defined ethnic groups (or groups that can be identified by commonalities in material culture) inhabited Southern Nevada in the prehistoric, protohistoric, and historic periods. Archaeological manifestations of Virgin Anasazi and Patayan groups are known in the Las Vegas Valley, and Numic occupations appear late in the prehistory of the area. These appear to represent ancestors of the Southern Paiute inhabiting the area at the time of Euro-American contact. The relationship between these groups during various times in prehistory needs to be more clearly defined. Thus, information is needed regarding the spatial distribution of past ethnic groups in the area, particularly along frontier zones such as the Las Vegas Valley. We also need information regarding the nature of interactions between these groups.

The means of identifying ethnic groups with archaeological data has been identified as a research goal (Ezzo 1995; D. Seymour et al. 1996; G. Seymour et al. 1998), and, in particular, whether ethic groups can be identified via rock art is a significant question (Ezzo 1995). The spatial distribution of the Virgin Anasazi and relationships between these groups and others in the region is not currently understood, and further research at either Virgin Anasazi sites or sites with Virgin Anasazi material culture such as ceramics could clarify this issue (Lyneis 1982b:182–183).

Recently, archaeologists have asked questions relating to understanding Patayan occupation or exploitation of southern Nevada. These questions are important to understanding the late prehistory of the valley and how different ethnic groups interacted during this time (Ahlstrom and Roberts 2001a, 2001b). In much of the Southwest, evidence of archaeological cultures comes from broken pieces of pottery. For the Las Vegas Valley, evidence of Patayan occupation or utilization has been found in the Duck Creek area and in the Las Vegas Wash. This evidence has until recently consisted almost entirely of pottery.

Finally, the timing, nature, and causes of the expansion of Numic speakers into the overall region (or the development of Numic populations from an indigenous population base) is currently poorly understood (Aikens and Witherspoon 1986; Bettinger and Baumhoff 1982; Lyneis 1982b; Rhode and Madsen 1994). An influential model of this process describes the Numic expansion in terms of differing resource exploitation strategies between pre-Numic and Numic populations, with Numic exploitation strategies supporting higher population levels and leading to replacement of pre-Numic groups (Bettinger and Baumhoff 1982). However, problems with this model have been noted (Grayson 1993:269), and further research is required to test the models that have been developed to date to describe this process.

Data Requirements—Past Ethnicity

To address the questions incorporated by this context, a variety of lines of interrelated data are required. To some degree, the archaeological identification of past ethnicity is a question in and of itself; therefore, the identification of ethnicity in the record is difficult at best. However, material culture that has been used to identify these different groups such as ceramics, diagnostic projectile points, and basketry provides a good starting place for addressing these questions. If these artifacts are in association with other aspects of material culture that can denote cultural lifeways of ethnic groups (e.g., subsistence, settlement, etc.), then it may be possible to begin to address this question. If sites with such material culture are in association with rock art, it may be possible to identify and associate this art with particular ethnic groups. Of particular value would be sites possessing diagnostic artifacts from different groups where it might be possible to assess whether trade or some other interaction structured the relationship between the different groups.

Also important are sites where evidence of subsistence practices can be associated with diagnostic artifacts. Via such associations, it may be possible to address the nature of the Patayan occupation of the Las Vegas Valley and surrounding regions, and whether Numic populations employed a different subsistence strategy from pre-Numic groups.

HISTORIC RESEARCH GOALS

Historic contexts developed for Nevada are quite broad in scope and reflect current preservation planning interests outlined in the Nevada Comprehensive Preservation Plan (White et al. 1991). For southern Nevada, productive research areas include the development of transportation corridors, mining practices and technology, and the role that the development of hydroelectric power had in regional urban growth. Specific research questions that may be answered with data recovered in the Eldorado Valley include:

Pioneering

Research questions relating to pioneering overlap many of the historic research domains described herein. The impact of Euro-American settlers was profound both in terms of changing the landscape of the Colorado Valley and in terms of contacts with Native Americans.

How did Euro-American utilization of the valley affect Native Americans already present?

How did the construction of Hoover Dam affect transportation routes into the Las Vegas and Eldorado Valleys?

Were there economic relationships between Native Americans and Euro-American explorers and prospectors? If so, what was the nature of this relationship, and how did it evolve or change over time?

Data Requirements—Pioneering

Data requirements for investigating Euro-American settlement include the range of material culture and site types used by early explorers and settlers. Data requirements for investigating the effects pioneers had on native people include location and recording of Native American sites, and comparison of material culture characteristic of late prehistoric and protohistoric periods. It is also necessary to investigate sites where Native Americans and Euro-Americans may have coexisted and to examine the range of material culture at these sites. This kind of investigation may provide information on economic or other relationships between the two groups. Documentary and archival information include records of relationships between the Native Americans and Euro-Americans. Other archival information may come from records that outline the influences of transportation routes and water availability on Euro-American settlement and growth in the region.

Transportation

The main transportation route in the Eldorado Valley connects Searchlight with Las Vegas. This route probably began as a trail, then wagon/stagecoach roads crossed the region, and finally a parallel route became part of Highway 95. Archaeological evidence of these routes has been located in various portions of the Eldorado Valley. This evidence includes the traces of trails, roads, railroads, artifacts discarded within "pitch zones" flanking the roads (Myhrer 1993), construction camps associated with railroad construction (Blair et al. 1999a, 1999b), the remains of railroad sidings, campsites of travelers along the trails and roads, and "transitional trails" between the main routes. Research questions relating to the development of transportation routes in the Eldorado Valley include:

What mode of transportation is represented by the particular site? What is the sites orientation, where does it "lead"? How was the site established or constructed?

Are artifacts or "construction" such as culverts, abutments, and so on present that indicate the sites date of origin or period of use?

Can the site be associated with one of the region's named transportation routes, or with a named siding or other way point?

In the case of a railroad construction camp, or other kind of habitation site, what can we learn about the lives of the people who lived and worked there? Is there evidence of their gender, social class, or ethnic identity?

Data Requirements—Transportation

Data requirements required to answer questions relating to the transportation theme include features and artifacts that allow the mode of transportation to be identified, that reveal the ways the route was improved or constructed, or that provide evidence relating to the when the route was established and used. Documentary evidence and previous research may provide information relating to some of these requirements.

Mining

Mining has had an important role in the economic development of the state of Nevada, and to a lesser extent the Eldorado Valley. In addition to mines themselves, properties that may be associated with mining include camps, general stores, milling and metal extraction features (such as stamp mills and smelters), and drainage features. While mining is a specific activity, it is also a unique way of life or system of adaptation that changed and evolved in response to economic demands, labor requirements, and technological innovations (Hardesty 1988). Research questions relating to mining in the Eldorado Valley and surrounding region include:

What types of mines are present in the project area and what was the range of metal-extraction techniques that were employed?

How were materials extracted from mines processed? Were processing facilities available locally or did the ore need to be sent elsewhere?

How were mining camps located spatially in relationship to mines, water sources, and other critical resources?

How did mining and/or processing affect community growth?

Data Requirements—Mining

Data requirements to answer questions about mining include location of sites, structures, facilities, or artifacts directly related to the technology of mining or that existed because of the presence of the industry (e.g., general stores). Associated material culture of mine sites, such as domestic lodging, recreational facilities, etc., are important to determine how the mine operated. Archival data are also important to understanding lifestyles of miners. Mining claims and deeds, historical-period maps showing locations of mines and information about their owners, and other documentary evidence pertaining to business transactions carried out between miners, or between miners and other businesspersons.

Power Generation and Transmission

While water was a critical resource in the arid southern Nevada region during historic periods, electrical power was equally important to the developing community. Without power to light and cool buildings community growth and expansion would be limited. Once the Hoover Dam was completed, Southern Nevada residents had access to the hydroelectric power generated by the dam. Research questions relating to the development of power generation and transmission systems in the Las Vegas Valley include:

Do any of the original transmission lines built to bring power from Hoover Dam to Las Vegas still exist?

Who were the people that worked on construction of transmission lines? Were these groups associated with dam and road construction that was part of the infrastructure of Hoover Dam?

Are any construction camps associated with transmission line construction still in existence? What was the nature of these camps when compared to those utilized during construction of Hoover Dam?

Data Requirements—Power Generation and Transmission

Data requirements to answer questions about power generation and transmission include the location and recording of transmission lines and associated features such as construction camps. Documentary evidence may include photographs, maps, construction reports, and letters indicating when and how the features were installed and maintained.

PREVIOUS RESEARCH

The primary objectives of the NextLight Boulder City Solar Project Cultural Resources Investigation are to collect archaeological data to ensure compliance with the UEPA and Section 106 of the National Historic Preservation Act. This information will aid the city of Boulder City and NextLight in their planning choices. The following section summarizes previous archaeological research in the project area vicinity. This work spans approximately the last 30 years and focuses upon the development of infrastructure and recreational uses.

Work Within 1 Mile of the Proposed Project

Table 2 summarizes the archaeological reconnaissance surveys conducted within 1 mile of the proposed project. While little archaeological reconnaissance has been conducted in the project area, the work that has been completed within the region relates to the development of transmission lines. The earliest transmission lines in the area extend from Hoover Dam to southern California. These were constructed in the 1930s, before the NHPA, and so no cultural resources compliances studies were completed. In 1954, a natural gas line was constructed connecting Las Vegas to southern California. This project did not conduct any cultural resources studies The first project to conduct cultural resources studies was the Navajo-McCullough line, which located several sites along the shore of Eldorado Dry Lake. Other surveys were conducted as part of motorcycle races and supported construction of Highway 95.

Table 3 summarizes archaeological sites found within 1 mile of the survey area. Most projects did not locate any sites, and those that were found were mostly found ineligible for listing on the NRHP. Four lithic scatters were found in the vicinity of Eldorado Dry Lake during the Navajo-McCullough Transmission line survey. Diagnostic projectile points found at these sites indicate use of the lakebed from Middle Archaic to Late Archaic times. One of the sites also contained grinding stones. The recorders postulated that brine and fairy shrimp, which occur when the lakebed floods, were the focus of prehistoric utilization of the dry lake (Brooks et al. 1974). Despite the small size of these shrimp, their utilization has been documented at other ephemeral lakes in the region.

Table 2. Sites Located Within 1 Mile of the NextLight Boulder City Solar Project Area.

Project #	Title	Author	Year	Acres
4-2-1	Prehistoric and Historic Research Along the Navajo-McCullough Transmission Line Right-of-way for the Los Angeles Water and Power Company in Clark and Lincoln Counties, Nevada	Brooks et al.	1975	
5-379	N5-78-8 Boonie Bounders	David Wolf	1978	68
5-429	N5-78-27 Southern Nevada Jackrabbits Hare Scrambles	Greg Thomsen	1978	45
5-377	N5-78-9 WRA Shamrock 350 Buggy Race	Greg Thomsen	1978	249
5-1042	From 16.3 miles north of Searchlight, EA 71100	Joe Moore	1982	985
5-1082	US 95 North of Searchlight, EA 71100	Matranga et al.	1983	360
5-1955	Cultural Resources Technical Report for the AT&T Communications Fiber Optic Project Between Flagstaff, Arizona and Las Vegas, Nevada	Gene P. Davis et al.	1989	520.045
5-2112	A Cultural Resource Inventory of a 19 Mile Long Gas Pipeline Right-of-way in the Eldorado Valley, Clark County, Nevada	Rafferty & Leavitt	1990	346
5-2259	A Class II Inventory of the Proposed Eldorado Valley Land Acts, Clark County, Nevada	Jeff Johnston	1994	520

Table 3. Archaeological Sites in the Vicinity of the Proposed NextLight Boulder City Solar Project

Site #	Site Type	Date Recorded or Updated	NR Eligibility
26CK1075	Lithic Scatter w/Northern Side-Notch Point	1974	Not evaluated
26CK1076	Lithic Scatter w/Pinto point	1974	Not evaluated
26CK1077	Lithic Scatter	1974	Not evaluated
26CK1157	Lithic and Groundstone Scatter w/rock feature and Humboldt Concave Base Point	1974	

METHODOLOGY

Site File Search

NewFields sought documentation describing previous work conducted within 1 mile of the project site at the HRC. The HRC serves as the regional repository for records of this kind. Table 2 lists the reports pertinent to the project area. An important goal of this data compilation was to identify any previously surveyed areas that might need reexamination as part of this project. Table 3 documents the sites recorded within 1 mile of the project area.

Historic Records Search

NewFields also consulted historic maps, newspapers and engineering drawings to compile addition information about historic sites found in the project area. These records helped the researchers develop a history of transportation in the Eldorado Valley and provided detailed data regarding to a historic road found during survey.

Survey Methods

NewFields conducted the archaeological survey in accordance with Nevada BLM *Cultural Resource Inventory General Guidelines* (BLM 1990, as revised). The survey area was located "on the ground" using U.S. Geological Survey topographic maps and physical landmarks such as roads. A crew of two technicians surveyed the project area walking parallel transects spaced no more than 30 meters apart. Survey of most portions of the project area was accomplished utilizing transects oriented along primary directions, while in other areas topography or man-made landmarks served to orient the survey routes. The main PV location area was surveyed utilizing north/south transects. The transmission line that will tie the PV array to the McCullough substation was surveyed walking along either side of the proposed right-of-way (see Figure 1).

Because no sites had been previously recorded within the project area, relocation of previously recorded sites was not necessary.

SURVEY RESULTS

The following section documents the results of field reconnaissance. NewFields located a single historical site and 43 isolates during this effort.

Newly Recorded Site

NewFields located one new site during field reconnaissance (Appendix B). The site was assigned a Nevada State Museum site number 26CK8757.

26CK8757

This site consists of a portion of an historic road running north/south through section 8 of the project area. The road continues to the north until it intersects with the road from Las Vegas to Boulder City and continues south to intersect modern Highway 95. Examination of historic maps suggested this road was part of the old Highway 5 connecting Las Vegas with Searchlight. Consultation with the Nevada Department of Transportation confirmed that this road is a portion of Highway 5. The road itself is approximately five meters in width. Adjacent to the road on the east side is a drainage ditch that kept flood water from washing over the road. On the west side of the road a variety of historic trash was found within approximately 60 meters of the roadbed. (Figure 3).

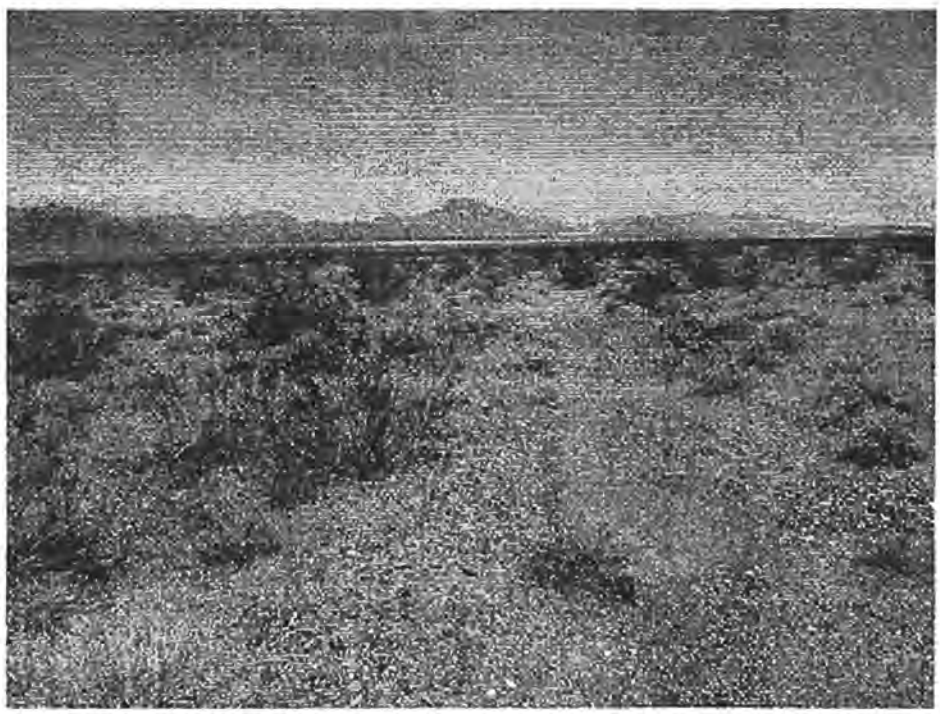

Figure 3. Site 26CK8757

Artifacts found along the road included pieces of flat glass that were probably once part of windshields, car parts, gas and oil cans, tools and pieces of tire rubber. These evidently represent the dangers of driving on unimproved roads during the early part of the 20th century when the

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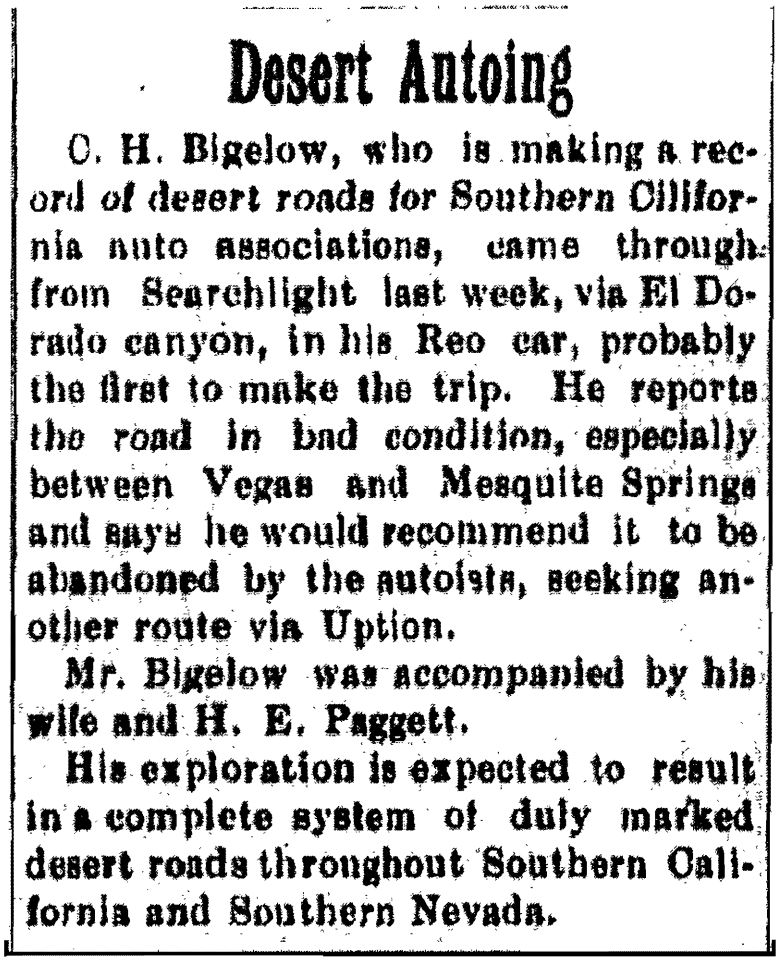
Documentary evidence supports the evidence provided by diagnostic artifacts. Historic map and newspaper articles describe how the road developed and was improved. A road between Las Vegas and the mines of the Eldorado District is shown on Wheeler's (1872) map of the region. This road left the abundant water of Las Vegas, traveled southeast to Mesquite Springs (6.97 miles) and then continued on to Forlorn Hope Springs and the mines of Eldorado Canyon (another 41.83 miles). A newspaper article dated December 14, 1907 describes three brave souls who were making a record of roads for Southern California auto associations. Mr. C.H. Bigelow, his wife, and a Mr. Paggett drove from Searchlight to Eldorado Canyon and then from there to Las Vegas. They reported that the road was in bad condition, especially between Mesquite Springs and Las Vegas (see Figure 4).



Desert Autoing

C. H. Bigelow, who is making a record of desert roads for Southern California auto associations, came through from Searchlight last week, via El Dorado canyon, in his Reo car, probably the first to make the trip. He reports the road in bad condition, especially between Vegas and Mesquite Springs and says he would recommend it to be abandoned by the autoists, seeking another route via Option.

Mr. Bigelow was accompanied by his wife and H. E. Paggett.

His exploration is expected to result in a complete system of duly marked desert roads throughout Southern California and Southern Nevada.

Figure 4. Las Vegas Age newspaper article, December 14, 1907.

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CONCLUSIONS

NewFields did not locate any information to answer research questions regarding prehistoric use of the project area. We postulated that Patayan ceramics might be found along the route, documenting use of the Eldorado Valley as a route to the Las Vegas Valley. While utilization of the eastern portions of the Las Vegas Valley by Patayan groups is well documented, the routes that lower Colorado River groups used to enter the valley are still not understood.

NewFields documented a historic road and 43 isolated artifacts during field reconnaissance. Documentary research indicates that the historic road was Highway 5, the main route to Searchlight before the modern Highway 95 was constructed. Of the 43 isolates recorded, 42 were historic debris deposits during a period prior to World War I and extending to the mid-1950s. Only one prehistoric lithic artifact was found, a white secondary flake.

26CK8757

The historic road recorded during this project appears to contain data that could answer research questions regarding the development of early transportation routes during the Historic Period. Site 26CK8757 has already yielded information to help us understand how early routes in southern Nevada connected mining camps to Las Vegas. Some data has already been extracted from this site during field investigations; we have located the road, an associated drainage ditch, and artifacts that provide information on how the road was constructed, how people dealt with vehicle maintenance, and how they sustained themselves along the route. Additional research is needed to locate additional road construction features and to collect artifacts that would be destroyed during construction of the proposed project.

Recommendations

In summary, NewFields located a historic road and its features and also recorded various historic artifacts (Appendices A & B).The road will be impacted by the proposed project. Information recovered during field reconnaissance has already provided information about historic transportation routes and how they changed through time as the road through Eldorado Valley changed from a path to early 20th century mines to a route to the casino resorts in Laughlin. Pursuant to NAC 703.420(4)) conducting data recovery at the site will mitigate impacts resulting from construction of the solar project.

Although two "gen tie" routes were surveyed for cultural resources, the precise location of the line was not determined at the time the project area was surveyed. The final transmission line route should be surveyed when the final configuration is determined.

Because the historical road will be totally destroyed when the PV site is graded, NewFields recommends that additional research should be conducted along the road. This research would include driving along the entire road in a four-wheel drive vehicle to determine if any stonework or drainage culverts remain and intensive recording of any additional artifacts that are encountered. Some diagnostic or extremely special artifacts could also be collected for public display and interpretation of the early road. The 30-meter transect interval utilized during field reconnaissance does not allow the archaeologists to focus on all the aspects of the road and these should be more intensively recorded before the site is destroyed.

The first step to mitigating impacts to cultural resources resulting from construction of the proposed solar site should be development of a Treatment Plan describing research goals and data recovery methods. Presentation of mitigation results from data recovery should be in a technical report that describes the results obtained during the mitigation phase. NewFields further recommends presentation of the results in a way accessible to both professional archaeologists and the general public. Organizations like the Society for American Archaeology, the Society for Historical Archaeology and the Register of Professional Archaeologists require that their members make educational and/or interpretive elements part of their archaeological and historical projects. Such elements could include presentation of a poster or paper at a regional archaeological conference, presentations to avocation groups, or display and interpretation at a museum or other venue.

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ACRONYMS AND ABBREVIATIONS

BLM	Bureau of Land Managements
HRA	Heidi Roberts Conservation Archaeology, Inc.
HRC	Harry Reid Center for Environmental Studies
kV	kilovolt
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PV	Photovoltaic
SHPO	State Historic Preservation Office
UEPA	Utilities Environmental Policy Act
UTM	Universal Transverse Mercator

APPENDIX A

ISOLATE FORMS AND LOCATIONS

NEWFIELDS

The Files in this Appendix are Confidential. They are not for distribution to the general public and are exempt from the Freedom of Information Act.

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APPENDIX B

SITE RECORDS

NEWFIELDS

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APPENDIX D

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PHASE I ENVIRONMENTAL SITE ASSESSMENT

FOR THE

NEXTLIGHT BOULDER CITY PROJECT SITE CLARK COUNTY, NEVADA

Prepared for:

NextLight Renewable Power, LLC
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URS Project Number 28907000.00029

March 31, 2009

TABLE OF CONTENTS

Section **Page**

List of Figures

List of Appendices

EXECUTIVE SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by URS of the NextLight Boulder City Project Site, an approximately 1,150-acre property located in Boulder City, Clark County, Nevada (property). The purpose of the Phase I ESA was to gather information concerning the property and surrounding areas to identify conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum or petroleum products, and controlled substances to identify and evaluate Recognized Environmental Conditions (RECs) affecting the property. This Phase I ESA was accomplished by, and limited to, a site reconnaissance, a site vicinity perimeter survey, and review of agency databases and other reasonably ascertainable records regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the property.

The Scope of Services performed was in accordance with the Agreement for Professional Services between NextLight Renewable Power, LLC and URS; and URS' proposal/scope of work dated March 6, 2009 (Work Order 29). The format and content of this Phase I ESA are in general accordance with the American Society of Testing Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase I Site Assessment Process E 1527-05* (ASTM 2005) and the U.S. Environmental Protection Agency All Appropriate Inquiries *Standards and Practices for All Appropriate Inquiries – Final Rule: [40 CFR Part 312],* approved November 1, 2005.

At the time of the site reconnaissance, the property consisted of portions of four parcels (APN # 21300001001, APN# 21300001012, APN# 20700002018 and APN# 20700002017). The property is located southwest of Boulder City in Eldorado Valley, west of U.S. Highway 95. The property is bounded by vacant desert land to the north south and east and the Nevada Solar One Solar Power Plant to the west.

Historical data indicate that the property has remained undeveloped land.

The property or surrounding properties were not identified on the database searches by Environmental Data Resources, Inc.

Based on the ESA results described herein, the following conclusions are made.

ES.1 ON-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' site reconnaissance and review of historical information, RECs from on-site sources were not identified.

ES.2 OFF-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' review of historical information and the environmental database search, RECs from off-site sources were not identified.

This Executive Summary is not intended to be a "stand-alone" document, but a summary of findings as described in the Phase I ESA report. Its use is intended to be in conjunction with the findings and limitations described therein.

SECTION 1.0
INTRODUCTION

Presented in this report are the results of the Phase I Environmental Site Assessment (ESA) conducted by URS Corporation (URS) of the NextLight Boulder City Project Site, a property located in Boulder City, Clark County, Nevada (property). At the time of the site visit, the property consisted of portions of four parcels (APN # 21300001001, APN# 21300001012, APN# 20700002018 and APN# 20700002017) encompassing approximately 1,150 acres. The property was observed to be undeveloped desert land.

This assessment was accomplished by, and limited to, a reconnaissance of the site, a perimeter survey of the site vicinity, and review of agency databases and other reasonably ascertainable information regarding past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the property.

1.1 AMERICAN SOCIETY OF TESTING MATERIALS STANDARD AND ALL APPROPRIATE INQUIRY

The format and content of this Phase I ESA are in general accordance with the American Society of Testing Materials (ASTM) Standard Practice for *Environmental Site Assessments: Phase I Site Assessment Process E 1527-05* (ASTM 2005) and the U.S. Environmental Protection Agency (USEPA) All Appropriate Inquiries (AAI) *Standards and Practices for All Appropriate Inquiries – Final Rule: [40 CFR Part 312],* approved November 1, 2005.

1.1.1 All Appropriate Inquiry Standards

The USEPA Rule on AAI was developed to establish landowner liability protections to property owners under the Comprehensive Environmental Response, Compensation, and Liability Act as innocent landowners, bona-fide prospective purchasers, and/or contiguous property owners. The AAI Rule expands the records review requirements by increasing the search distances beyond the recently superseded ASTM Standard E 1527-05, incorporating mandatory searches for engineering and institutional controls, and mandatory review of local government and tribal records. The records review also requires a search of reasonably ascertainable land title and lien records to identify environmental liens or activity and use limitations, if any, which are recorded against the property. The historical sources review requires that a search of the property go as far back in history as it can be shown that the property contained structures or was first used for residential, agricultural, commercial, industrial, or governmental purposes. Data gaps for the property will be identified and their significance reported. The AAI Rule also requires taking into account commonly known or reasonably ascertainable information within a local community. AAI requires that inquiries

be conducted by an environmental professional, which is specifically defined within the Rule.

1.1.2 America Society of Testing Materials Standard

The ASTM Standard was approved November 18, 2005, and was established and updated to reflect industry requirements brought about by AAI.

The goal of the ASTM Standard is to identify Recognized Environmental Conditions (REC) (note Section 5.0). Under the ASTM Standard, "recognized environmental condition" is defined as the presence, or likely presence, of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. RECs include hazardous substances or petroleum products even under conditions in compliance with laws. RECs are not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

1.2 PURPOSE

The purpose of the Phase I ESA is to gather information concerning the property and surrounding areas identify conditions indicative of releases or threatened releases of hazardous substances, pollutants and contaminants, petroleum or petroleum products, and controlled substances.

1.3 SCOPE OF SERVICES

The Scope of Services performed was in accordance with the Agreement for Professional Services between NextLight and URS, and URS' proposal/scope of work dated March 6, 2009 (Work Order 29). The format and content of this Phase I ESA are in general accordance with the ASTM Standard and the USEPA AAI.

The site reconnaissance included a walking tour of areas of the property that were accessible and a perimeter survey of surrounding and accessible adjacent properties. To meet the objective of this Phase I ESA, URS completed the following tasks:

- Performed a reconnaissance survey of the property to make visual observations of existing site conditions and activities, and a perimeter survey of the area within 0.5 mile of the property (as practical) to observe types of general land use. Photographs of the property are provided as Appendix A.

- Reviewed and interpreted archival topographic maps of the property and the area within 0.5 mile of the property for information regarding historical land use potentially involving the manufacture, generation, use, storage and/or disposal of hazardous substances. EDR historical topographic maps are included in Appendix B.
- Reviewed and interpreted available historical aerial photographs of the property and vicinity for evidence of previous site activities and development that would suggest the potential presence of hazardous substances at the property. A copy of the Environmental Data Resources, Inc. (EDR), Milford, Connecticut, Aerial Package is included in Appendix C.
- Reviewed pertinent, available documents and maps regarding local physiographic and hydrogeologic conditions in the property vicinity.
- Reviewed the federal, state, and local database list search provided by EDR of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations. The agency lists and Area Search results are provided in Appendix D.
- Conducted inquiries in person, by telephone, or in writing to the appropriate regulatory agencies for information regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the property.
- Conducted interviews, where appropriate, and discuss specialized knowledge of site conditions with site contacts. Mr. Brok Armantrout, Director of the Community Development Department for the Boulder City Public Works Department and representative of the property was contacted on March 25, 2009 to answer questions regarding the current and historic uses of the property. A copy of the User Questionnaire completed is included as Appendix E.
- Prepared this report describing the research performed and presenting URS' findings and professional opinions regarding the potential for adverse environmental impacts to the property.

1.4 USER RELIANCE

This report was prepared for use by NextLight, and shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of URS.

1.5 LIMITATIONS AND EXCEPTIONS

This report and the associated work were provided in accordance with the principles and practices generally employed by the local environmental consulting profession. This is in lieu of all warranties, expressed or implied.

Discussions of the ASTM Standard or AAI data gaps, if any, including sources reviewed, the significance of each data gap, and an opinion if the data gap inhibits the environmental professional's ability to reach an opinion about contamination at the property, are incorporated into the appropriate sections of the report.

It should be recognized that this Phase I ESA was not intended to be a definitive investigation of potential contamination at the property and the recommendations provided are not necessarily inclusive of all the possible conditions. This Phase I ESA is not a regulatory compliance audit or an evaluation of the efficiency of the use of any hazardous materials at the property. Soil and/or groundwater sampling was not undertaken as part of this investigation. Sampling for asbestos, radon, lead-based paint, and lead in drinking water was also not performed as part of this Phase I ESA. Given that the Scope of Services for this investigation was limited, it is possible that unobserved contamination might exist.

The conclusions presented are professional opinions based solely upon indicated data described in this report, visual site and vicinity observations, and the interpretation of the available historical information and documents reviewed, as described in this report. Unless URS has actual knowledge to the contrary, information obtained from interviews or provided to URS by the client was assumed to be correct and complete. URS does not assume any liability for information that was misrepresented to URS by others or for items not visible, accessible or present on the property during the time of the site reconnaissance. The conclusions are intended exclusively for the purpose outlined herein and the site location and project indicated. The executed Scope of Services may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Opinions and recommendations presented herein apply to the site conditions existing at the time of this assessment and cannot necessarily apply to site changes of which URS is not aware and has not had the opportunity to evaluate. Changes in the conditions of this property may occur with time due to natural processes or the works of man on the property or adjacent properties. Changes in applicable standards may also occur as a result of legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond URS' control. Opinions and judgments expressed herein are based on URS' understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

SECTION 2.0
SITE DESCRIPTION

2.1 LOCATION

The NextLight Boulder City Project Site is located in Boulder City, Clark County, in Eldorado Valley, west of U.S. Highway 95. The property consists of portions of four parcels (APN # 21300001001, APN# 21300001012, APN# 20700002018 and APN# 20700002017) encompassing approximately 1,150 acres. The property is bounded by vacant desert land to the north south and east and the Nevada Solar One Solar Power Plant to the west.

A topographic map and an aerial map are included as Figures 1 and 2, respectively.

2.2 INTERVIEWS AND SPECIALIZED USER KNOWLEDGE

URS submitted a *User Questionnaire*, per AAI standards, to Mr. Brok Armantrout, representative for the property. Mr. Armantrout stated that, to his knowledge, there are no known environmental concerns associated with the property. A copy of the *User Questionnaire* is included as Appendix E.

2.3 SITE RECONNAISSANCE

On March 18, 2009, Ms. Holly Woodward of URS conducted a reconnaissance of the property. URS was not escorted by a site representative during the reconnaissance. The reconnaissance consisted of the observation and documentation of existing site conditions and the nature of the neighboring property development within 0.5 mile of the property. Photographs taken during the site reconnaissance are provided in Appendix A.

2.3.1 Site Conditions

The property consists of vacant desert land. The property was observed to be relatively flat with natural drainage from the southeast to the northwest towards the center of the Eldorado Valley. Several small dry creek beds were evident, apparently active during thunderstorms events. Sage brush and creosote were observed to be the predominate vegetation with some desert grasses and shrubs. A Southwest Gas natural gas pipeline runs in a north/south direction along the western boundary of the property and transects the northern portion of the property.

APN# 20700002017

This portion of the property is located north of the Nevada Solar One Power Plant and west of APN# 20700002018. The parcel consists of vacant desert land.

APN# 20700002018

This portion of the property is located northeast of the Nevada Solar One Power Plant and north of APN# 21300001012. One unpaved road runs north to south across the parcel. The parcel consists of vacant desert land.

APN# 21300001012

This portion of the property is located east of the Nevada Solar One Power Plant and north of Eldorado Valley Drive. One unimproved road runs north to south across the parcel. The parcel consists of vacant desert land.

APN# 21300001011

This portion of the property is located southeast of the Nevada Solar One Power Plant and south of Eldorado Valley Drive. Two unpaved roads run north the south across the parcel. A Southwest Gas Eldorado tap structure is located southwest of the intersection of Eldorado Valley Drive and an unimproved road. Gas lines and access points were also observed along the west side of the unimproved road. The parcel consists of vacant desert land.

2.3.2 Hazardous Substances

Hazardous substances were not observed on the property during the site reconnaissance. No known hazardous materials were historically used or stored on the property.

2.3.3 Storage Tanks

URS did not observe evidence of storage tanks nor are they reported to exist currently or historically on the property.

2.3.4 Polychlorinated Biphenyls and Mercury

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain polychlorinated biphenyls (PCB) in hydraulic equipment or dielectric insulating fluids within the units. The Federal Toxic Substances Control Act generally prohibited the domestic manufacture of PCB after 1976; therefore, there is a potential for the dielectric fluid in electrical and hydraulic equipment manufactured prior to that date to contain PCBs.

Transformers, hydraulic equipment, capacitors, and similar equipment that may contain PCBs were not observed on the property during URS' site reconnaissance.

URS staff did not observe any structures on the property that needed assessment for potential fluorescent lighting fixtures that would have PCB-containing ballasts.

Mercury was used in the mining industry to separate precious metals from crushed ore. In addition, mercury is used in analog timers and data loggers that are common in oil field production operations. Based on the site reconnaissance, conditions for the use of mercury was not evident.

2.3.5 Waste Disposal

Waste was not observed on the property. Waste is reportedly not generated on the property.

2.3.6 Drums/Other Chemical Containers

Drums and/or other chemical containers were not observed during the reconnaissance.

2.3.7 Dumping

Dumping was not observed on the property. Small amounts of concrete, wood and windblown trash were observed during the site reconnaissance.

2.3.8 Pits, Ponds, Lagoons, Septic Systems, Cisterns, Sumps, Drains, and Clarifiers

No evidence of pits, ponds, lagoons, septic systems, cisterns, sumps, drains, and clarifiers was observed at the property during the reconnaissance.

2.3.9 Pesticide Use

Pesticides are reportedly currently not used and have historically not been used on the property.

2.3.10 Staining and Discolored Soil

Staining or discolored soil was not observed during the reconnaissance.

2.3.11 Stressed Vegetation

Stressed vegetation beyond that which is normally evident in desert environments was not observed during the reconnaissance.

2.3.12 Unusual Odors

No unusual odors were noted during the reconnaissance.

2.3.13 On-site Wells

No water supply, monitoring, or oil wells were observed on the property.

2.3.14 Asbestos

An asbestos survey was not included in the Scope of Services performed for this Phase I ESA. URS staff did not observe any structures on the property that could have required an asbestos assessment.

2.3.15 Lead-based Paint

A lead-based paint (LBP) survey was not included in the Scope of Services performed for this Phase I ESA. Concern for LBP is primarily related to residential structures. URS staff did not observe any structures on the property that could have required a LBP assessment.

2.3.16 Radon

A USEPA survey by county and state of indoor radon concentrations indicated the radon zone level for Clark County is 3. Zone 3 areas are predicted to have an indoor radon screening potential less than 2.0 picocuries per liter of air (pCi/l). The USEPA action level for radon is 4.0 pCi/l. Therefore, further assessment for radon appears unwarranted.

2.3.17 Other Concerns

No other environmental concerns were noted at the time of the reconnaissance.

2.4 SITE VICINITY AND ADJACENT PROPERTIES

The site vicinity and adjacent properties consist primarily of undeveloped land In general, prominent adjoining land uses are as follows:

- North: Undeveloped desert land with unimproved roads and overhead transmission lines.
- South: Undeveloped desert land with unimproved roads.
- East: Undeveloped desert land and U.S. Highway 95.
- West: Undeveloped desert land with unimproved roads, Nevada Solar One Power Plant and associated substations and switching stations. The Nevada Solar One Power Plant is a 64 Megawatt concentrating solar power plant that began operation in June, 2007. The Plant consists of 400 acres located to the west of the property.

URS did not observe activities that would indicate the potential of surface or subsurface impacts to the property from adjoining properties.

2.5 HISTORICAL USE

URS reviewed readily available historical data pertaining to the property. These references were reviewed for evidence of activities that would suggest the potential presence of

hazardous substances at the property and to evaluate the potential for the property to be impacted by off-site sources of contamination. The following subsections are a summary of the review.

2.5.1 Historic Topographic Maps

URS reviewed the following USGS 7.5-minute Quadrangle maps of Nevada provided in the EDR Historical Topographic Map Report: Boulder City SW (1958 and 1973), to provide topographic map coverage of the property and vicinity (Appendix B). The following is a summary of the review.

1958 The Boulder City map depicts the property and surrounding areas as undeveloped land, with gas pipelines and scattered unimproved roads in the site vicinity.

1973 No significant changes are observed on the property, adjacent properties or site vicinity.

2.5.2 Historic Aerial Photographs

The general type of activity and land use can often be discerned from the type and layout of structures visible in an aerial photograph; however, specific elements of a site operation cannot normally be determined from the photographs. Considering these conditions, URS reviewed historical aerial photographs dated 1955, 1977, 1980, 1990 and 2005 that were provided by EDR or reviewed in the 1967 Soil Survey: Las Vegas and Eldorado Valleys Area (Appendix C includes the 1977, 1980 and 1990 aerial photographs provided by EDR). The following is a summary of the review.

1955 The property is undeveloped land. No structures are observed on the property. No roads are observed on the property. The adjacent properties are also undeveloped.

1977 A road (Eldorado Valley Road) is now observed to traverse the property. No significant changes were observed to the adjacent properties. Some development is observed to the west of the property.

1980 No significant changes were observed to the property or adjacent properties.

1990 No significant changes were observed to the property or adjacent properties. Additional development is observed to the west of the property.

2005 Several unimproved roads are now observed on the property and in the site vicinity. Development (Nevada Solar One Power Plant under construction) is observed to the west of the property.

2.5.3 Interviews

Mr. Brok Armantrout, Director of the Community Development Department for the Boulder City Public Works Department and representative of the property, was contacted on March 25, 2009, to answer questions regarding the current and historic uses of the property. According to Mr. Armantrout, the property has remained undeveloped desert land. The property was historically owned by the Federal Government. The Federal Government transferred the property to the State of Nevada Colorado River Commission in 1958 by Act of Congress through Public Law 85-339. In 1995 the Colorado River Commission sold the property to the City of Boulder City. A copy of the User Questionnaire completed during the interview is included as Appendix E.

2.5.4 Title Records/Environmental Liens or Activity and Use Limitations

Based on the Title information provided by the Boulder City, there are no environmental liens on the property. The property was not identified in the NPL Recovery (Federal Superfund Liens) database in the EDR report. According to the Mr. Armantrout, local zoning laws restrict the use to the property to solar energy development.

2.5.5 Valuation Reduction for Environmental Issues

URS was not provided information to indicate that the property value of the site has decreased due to environmental issues. Boulder City does not sell land, but leases property for development.

SECTION 3.0
PHYSICAL SETTING

URS reviewed pertinent maps and readily available literature for information on the physiography and hydrogeology of the site. A summary of this information is presented in the following subsections.

3.1 TOPOGRAPHY

The region lies within the Eldorado Valley of Clark County, Nevada. The property is relatively flat, sloping gently to the northwest from approximately 2,000 to 1,740 feet above mean sea level. Surface water originates from south of the site and flows to dry lake bed north of the site.

3.2 AREA GEOLOGY

The property is located within the Eldorado Valley. The rocks and valley-fill deposits may be categorized into five types: 1) alluvial deposits, 2) older gravels, 3) volcanics, 4) granite, and 5) metamorphics. Alluvial deposits occur in the valley-floor area and include interbedded sequences of gravel, sand, silt, and clay. These deposits are generally unconsolidated, but may be cemented in the vicinity of fault zones or where mineralized water is present. Older gravels of Late Tertiary to Early Quaternary-age deposits are generally weakly consolidated, but include well-lithified fanglomerates, conglomerates, and arkoses. Volcanic rocks of Quaternary, Tertiary, and Cretaceous ages are located in the mountain masses of the northern half of the McCullough Range, the entire Highland Range, and in the northeastern Eldorado Mountains. These rocks include a number of discrete geologic units, including andesite, rhyolite, diorite, and tuff. Granitic rocks of Tertiary and Precambrian age (including granites, quartz monzonites, and porphyritic granites) occur in the central and southern Eldorado Mountains. Granitic rocks of Tertiary and Precambrian age probably also form the basement complex under most of the valley.

The major geologic structures in Eldorado Valley include normal faults in the McCullough Range and Eldorado Mountains and in the Highland Springs Anticline in the northwest Highland Range. The major recognized faults include the McClanahan Fault in the McCullough Range and the Jeep Pass, Hidden Valley, Eldorado, and Welcome faults in the Eldorado Range (1967 Soil Survey: Las Vegas and Eldorado Valleys).

3.3 GROUNDWATER

Eldorado Valley is situated within the Las Vegas Flow System, a subsystem of the regional Colorado Flow System. Groundwater that originates as precipitation over areas of higher elevation generally flows toward the axis of the basin and then north into Las Vegas Valley or eastward into the Colorado River Valley. Groundwater under Eldorado Valley occurs from

approximately 275 to 320 feet below land surface (1967 Soil Survey: Las Vegas and Eldorado Valleys).

SECTION 4.0
AGENCY RECORDS REVIEW

URS reviewed readily available records regarding past and current property use, contacted applicable agencies regarding potential environmental concerns at the property, and reviewed the agency database list search for potential environmental concerns at surrounding properties. The information obtained during the records review is provided in the following sections.

4.1 DATABASE LIST SEARCH

URS contracted with EDR to conduct a search for facilities listed by regulatory agencies as potentially having environmental concerns. The complete list of databases reviewed is provided in the EDR Database Report, included as Appendix D, and is summarized in Sections 4.1.1 and 4.1.2. It should be noted that this information is reported as received by URS from EDR, which reports information as provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

4.1.1 Property

The property was not identified on any of the databases searched by EDR. A summary of agency databases searched can be found in the EDR Database Report provided as Appendix D.

4.1.2 Site Vicinity

No facilities in the site vicinity were identified on any of the databases searched by EDR.

4.1.3 Orphan Sites

URS reviewed EDR's Orphan Summary, which is a listing of sites that have not been geo-coded (coded and plotted on EDR maps) based on lack of sufficient data regarding their exact location within the general area. The property was not identified as an Unmapped Site. No additional Unmapped Sites identified on the Orphan Summary appear to be located within the ASTM-designated radii of the property, and, therefore, URS has no evidence that these sites had an impact on the property.

4.2 AGENCY CONTACTS

During the performance of an environmental assessment, state and local regulatory agencies having jurisdiction over the property are contacted to assess the following information: the

status of relevant environmental permits; whether there has been any violations, or other similar correspondence from such agencies; whether corrective action or remediation is planned, currently taking place, or was completed at the property; whether there were any reported violations or complaints that the property is not in compliance with environmental laws, regulations, or standards, and whether the property is under investigation for such non-compliance; whether the property is listed on any of the regulatory databases; and whether there is any other pertinent documentation on file with such regulatory agencies regarding the property or surrounding sites of concern. The following responses were received from the regulatory agencies:

- The Boulder City Public Works Department. The Boulder City Public Works Department provided information regarding the history of the property. Information obtained from the Boulder City Public Works Department is included in Section 2.5.3.
- Nevada, Department of Conservation & Natural Resources, Division of Environmental Protection (NDEP) was contacted. The NDEP has no records concerning the property.
- State of Nevada, Department of Conservation & Natural Resources, Division of Water Resources (NDWR) was contacted to obtain information regarding potential wells on the property. The NDWR has no well records concerning the property.

SECTION 5.0
CONCLUSIONS AND RECOMMENDATIONS

5.1 ON-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' site reconnaissance and review of historical information, RECs from on-site sources were not identified.

5.2 OFF-SITE RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on URS' review of historical information and the environmental database search, RECs from off-site sources were not identified.

5.3 RECOMMENDATIONS

No further investigation is warranted at this time.

SECTION 6.0
PREPARER SIGNATURES AND QUALIFICATIONS

This section includes qualification statements of the environmental professionals responsible for conducting the ESA and preparing this report.

The site reconnaissance was conducted by Ms. Holly Woodward of the URS Las Vegas office. Ms. Tricia Winterbauer of the URS Santa Barbara, California, office conducted the data review for the project and wrote the Phase I ESA report. Ms. Winterbauer has 12 years of experience in environmental site investigations, characterizations, and assessments.

The work conducted and the report written by Ms. Winterbauer was reviewed by Mr. Robert C. Orlando, CA PG and NV CEM, with over 20 years of experience with Phase I Environmental Site Assessments.

Ms. Winterbauer declares that, to the best of her professional knowledge and belief, she meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Mr. Orlando declares that, to the best of his professional knowledge and belief, he meets the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

Ms. Winterbauer has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the property. With the assistance of Mr. Orlando, they have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Tricia Winterbauer
Senior Environmental Specialist

Robert C. Orlando, CA PG #4555, NV CEM 1117
Senior Project Manager

SECTION 7.0
REFERENCES

American Society of Testing Materials (ASTM) International. 2005. Standard E 1527-05, "Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process."

Environmental Data Resources, Inc. (EDR). 2009a. The EDR DataMap Area Study Report, Inquiry Number 2445334.1s, March 19.

2009b. The EDR Historical Topographic Map Report, Inquiry Number 2445334.3, March 18.

2009c. The EDR USGS Aerial Photography Priority Package, Inquiry Number 2445334.3.

State of Nevada, Department of Conservation & Natural Resources, Division of Water Resources. 2009. Well Log Database. http://water.nv.gov/Engineering/wlog/wlog.cfm. March.

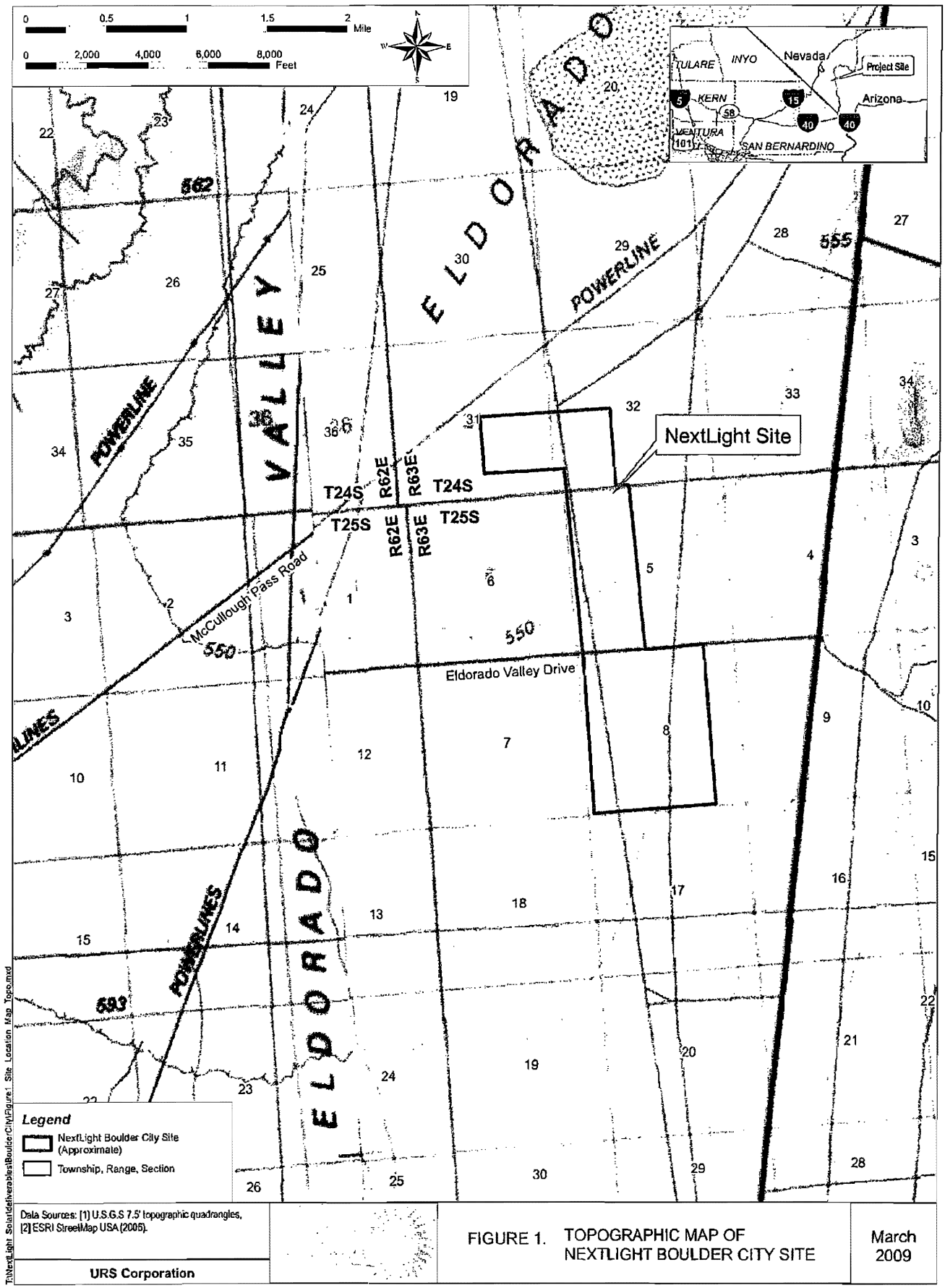
State of Nevada, Department of Conservation & Natural Resources, Division of Environmental Protection. 2009. Registered UST and Project Tracking Database. http:// ndep.nv.gov/admin/env_info_request.htm.

U.S. Department of Housing and Urban Development (HUD). 2008. About Lead-based Paint. Information from their web page: http://www.hud.gov/offices/lead/healthyhomes/ lead.cfm. November.

U.S. Environmental Protection Agency (USEPA). 2009. Nevada Map of Radon Zones. From their web page: http://www.epa.gov/iaq/radon/zonemap.html. March.

2005. Federal Register, Vol. 70, No. 210. U.S. Environmental Protection Agency. Standards and Practices for All Appropriate Inquiries; Final Rule (40 CFR Part 312). November.

FIGURES



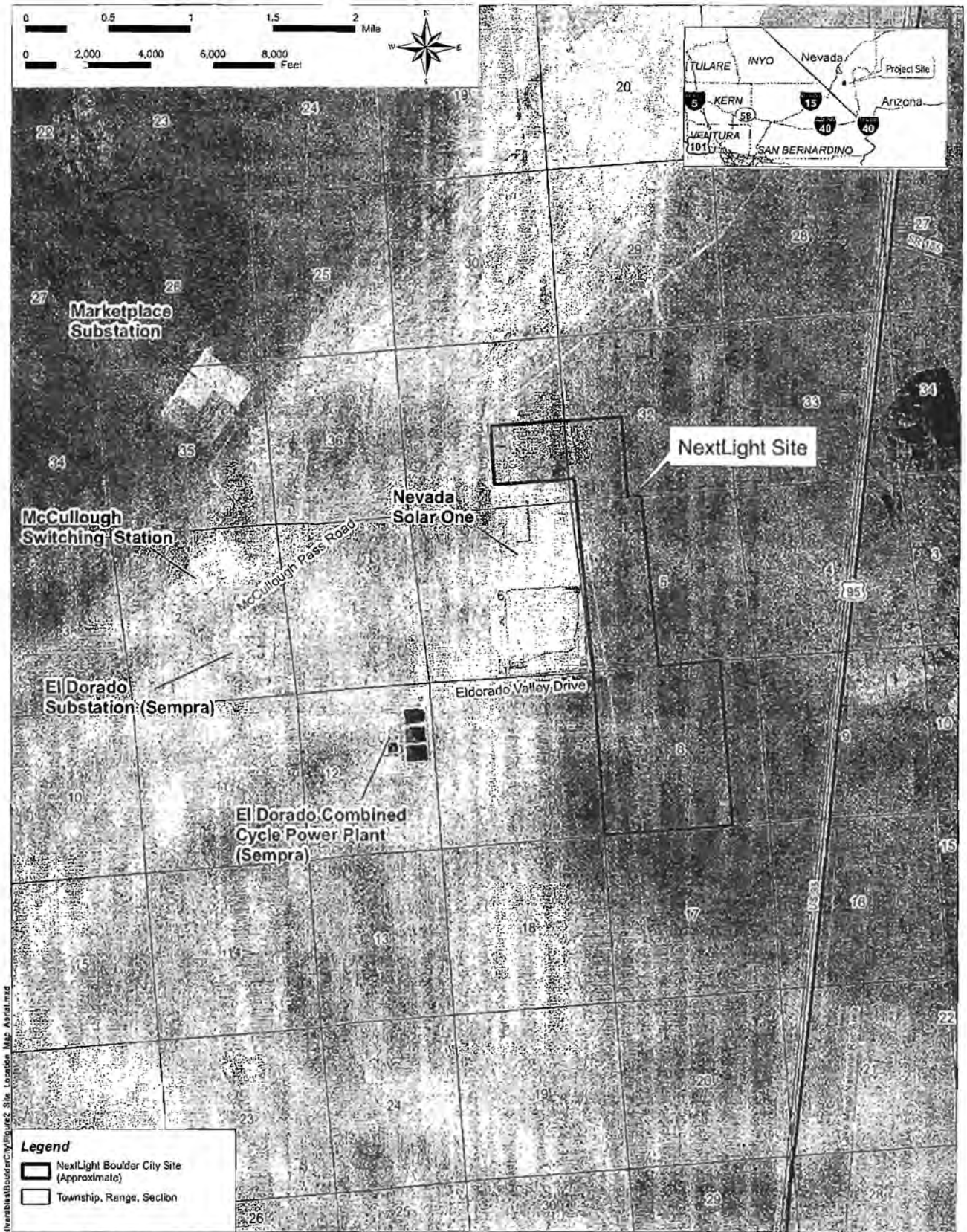
T:\NextLight_Solar\Deliverables\Boulder City\Figure1_Site_Location_Map_Topo.mxd

Data Sources: [1] U.S.G.S 7.5' topographic quadrangles, [2] ESRI StreetMap USA (2005).

URS Corporation

FIGURE 1. TOPOGRAPHIC MAP OF NEXTLIGHT BOULDER CITY SITE

March 2009



Data Sources: [1] 1m Natural Color NAIP (2006), [2] ESRI StreetMap USA (2006).

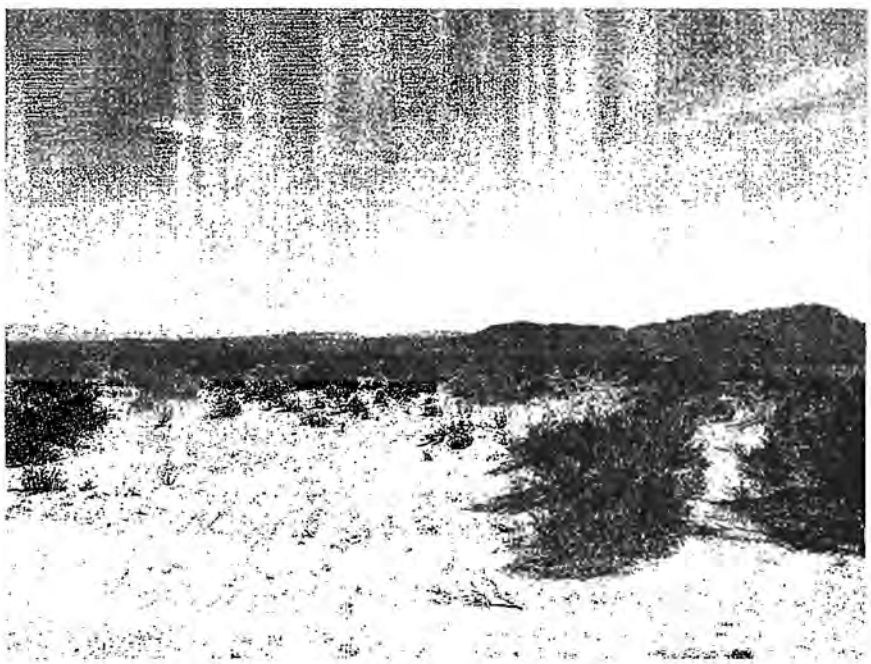
URS Corporation

FIGURE 2. AERIAL MAP OF NEXTLIGHT BOULDER CITY SITE

March 2009

F:\NextLight_Solar\deliverables\BoulderCity\Figure2_Site_Location_Map_Aerial.mxd

APPENDIX A
SITE PHOTOGRAPHS

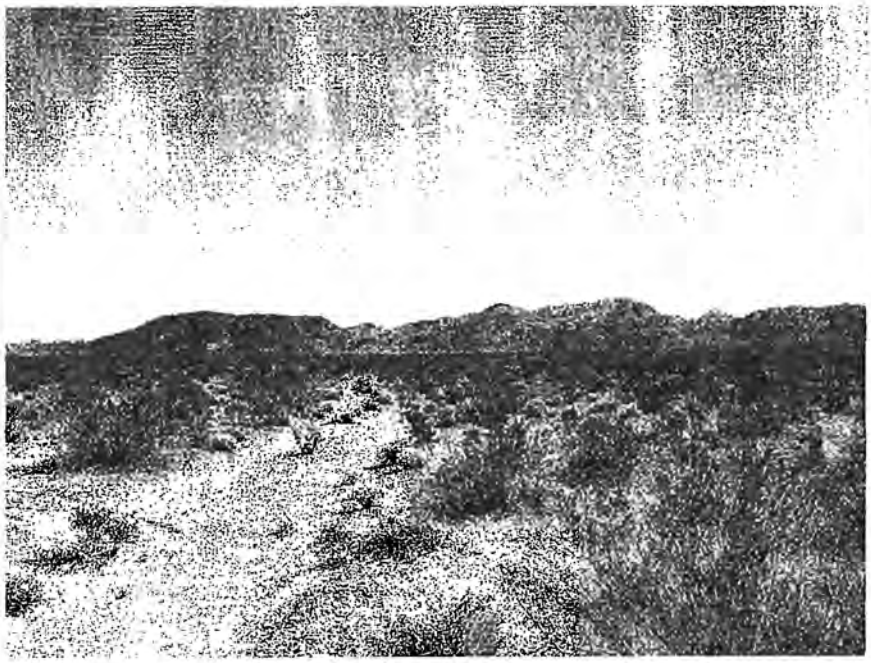


Photograph 1

Comments:
APN#
20700002017
View to east from north of Nevada Solar One Power Plant

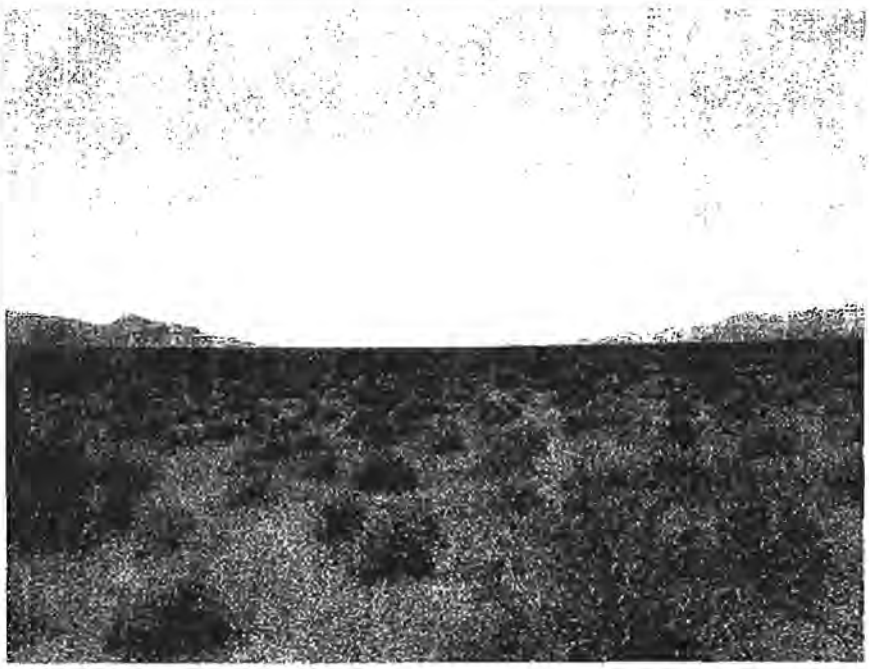
Photograph 2

Comments:
APN#
20700002017
View to north from North of Nevada Solar One Power Plant



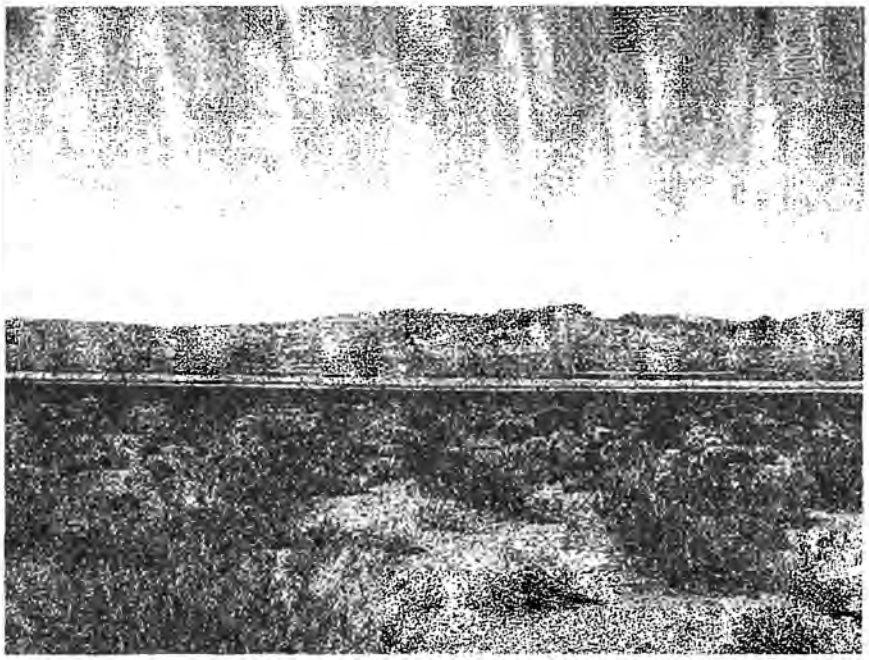
Photograph 3

Comments:
APN#
20700002018
View to east from northern portion of the property



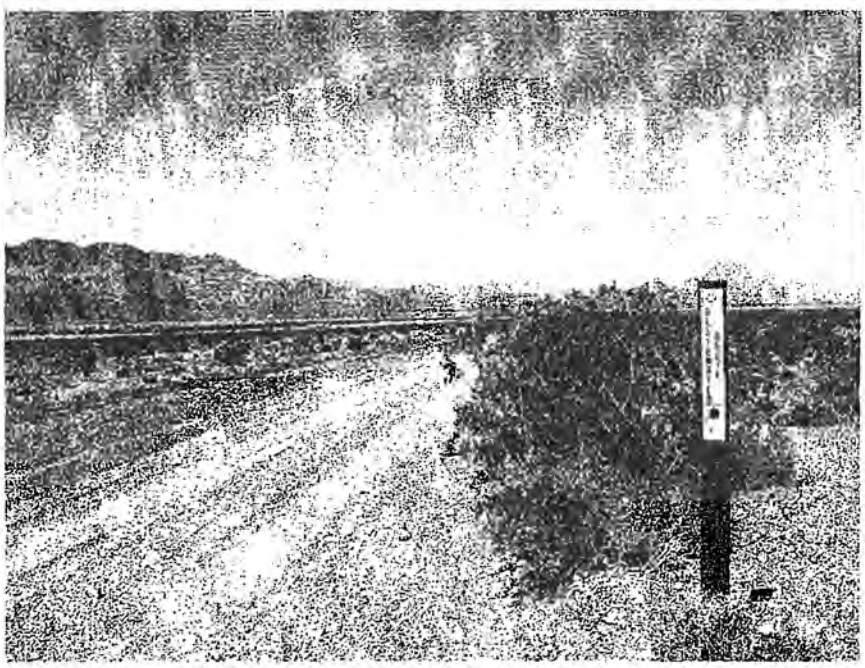
Photograph 4

Comments:
APN#
20700002018
View to south from northern portion of the property



Photograph 5

Comments:
APN#
21300001002
View of Nevada Solar One Power Plant facing west, from eastern portion of property

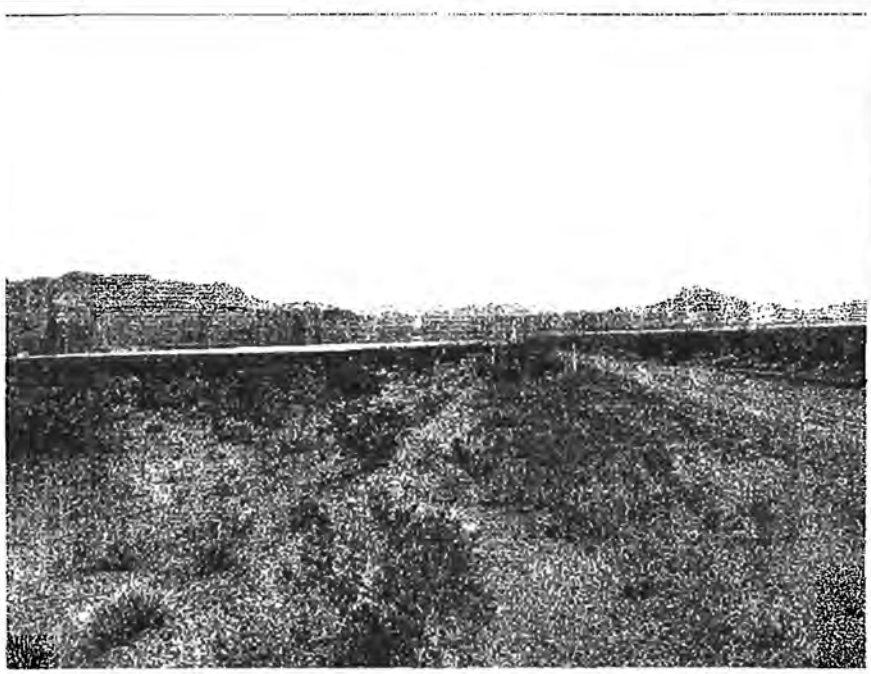


Photograph 6

Comments:
APN#
21300001002
Unimproved road on property facing north, from southern portion of property

Photograph 7

Comments:
APN# 21300001001
View facing east from unimproved road toward US Highway 95, from southern portion of property



Photograph 8

Comments:
APN# 21300001001
View facing north toward Nevada Solar One from unpaved road on southern portion of property

APPENDIX B
EDR HISTORICAL TOPOGRAPHIC MAP REPORT

Boulder City Site
Boulder City Site
Boulder City, NV 89005

Inquiry Number: 2445334.3
March 18, 2009

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

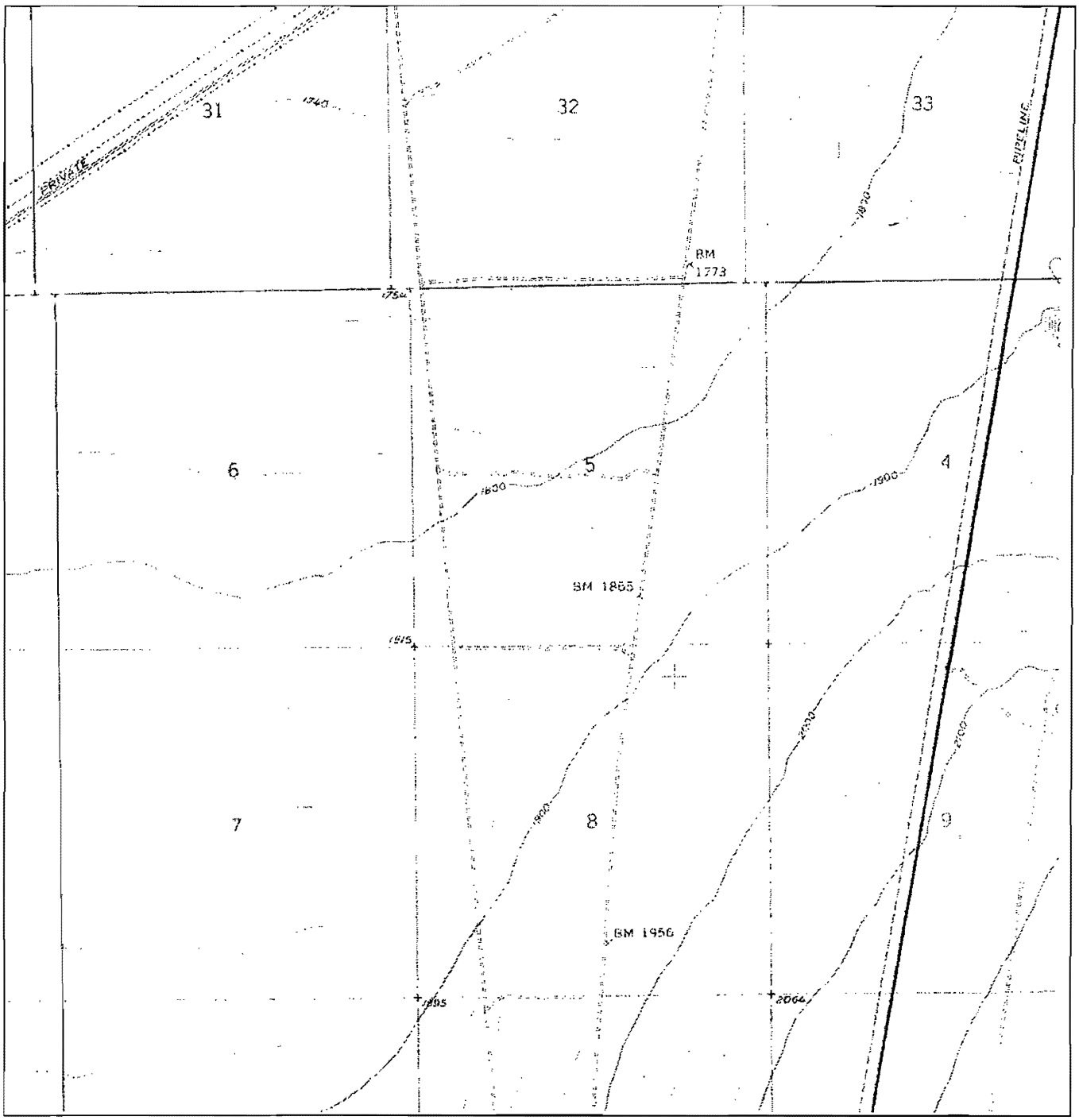
440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

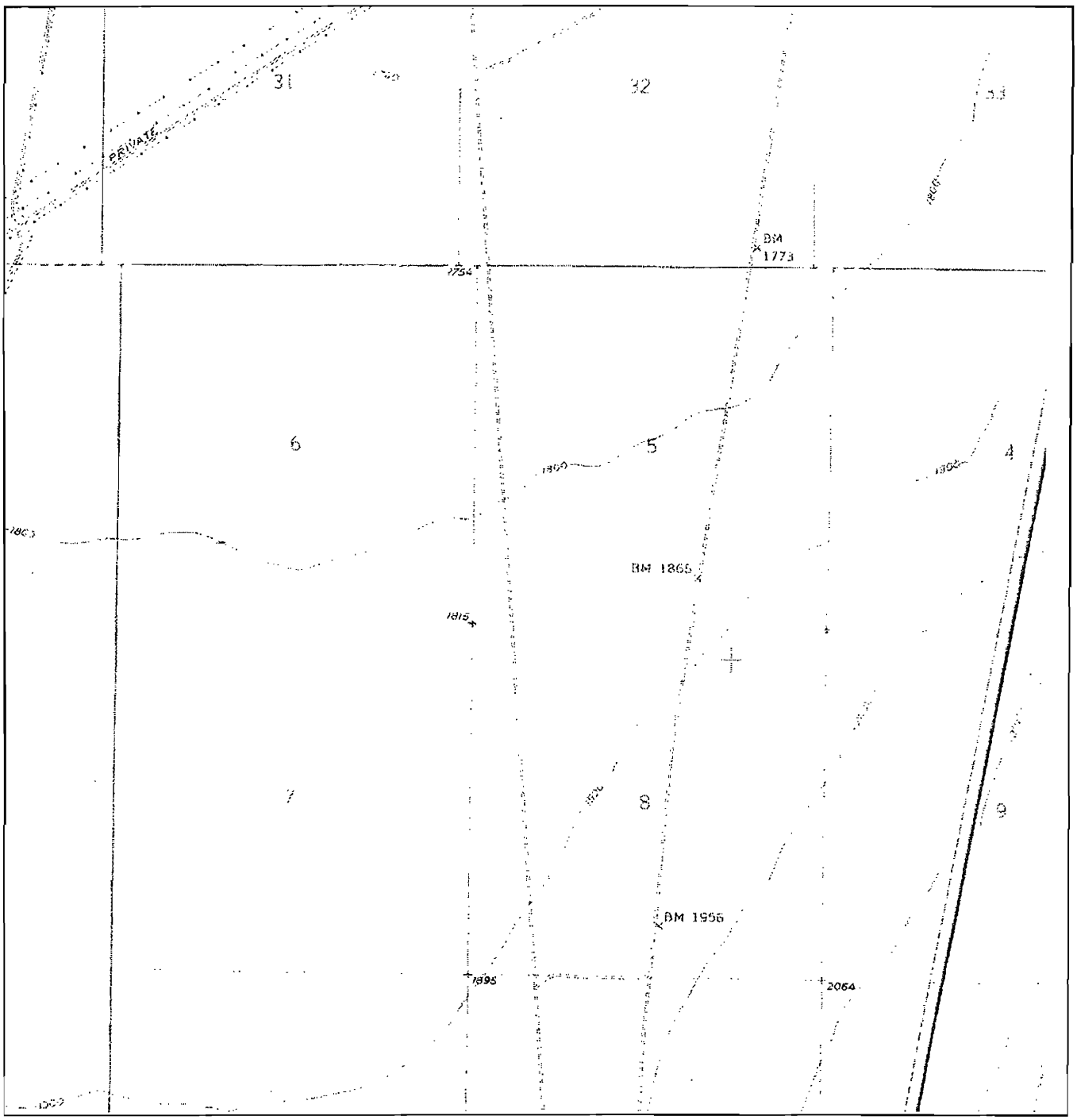
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map



N	TARGET QUAD NAME: Boulder City SW, NV MAP YEAR: 1958 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Boulder City Site ADDRESS: Boulder City Site Boulder City, NV 89005 LAT/LONG: /	CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 2445334.3 RESEARCH DATE: 03/18/2009

Historical Topographic Map



N	TARGET QUAD NAME: Boulder City SW, NV MAP YEAR: 1973 PHOTOREVISED FROM:1958 SERIES: 7.5 SCALE: 1:24,000	SITE NAME: Boulder City Site ADDRESS: Boulder City Site Boulder City, NV 89005 LAT/LONG: /	CLIENT: URS Corporation CONTACT: Tricia Winterbauer INQUIRY#: 2445334.3 RESEARCH DATE: 03/18/2009

APPENDIX C
EDR USGS AERIAL PHOTOGRAPHY PRIORITY PACKAGE

Boulder City Site
Boulder City Site
Boulder City, NV 89005

Inquiry Number: 2445334.5
March 26, 2009

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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science for a changing world

6-3-77
GS-VELJ
USGS

USGS

APPENDIX D
EDR DATAMAP AREA STUDY REPORT

Boulder City Site
Boulder City, NV 89005

Inquiry Number: 2445334.1s
March 19, 2009

EDR DataMap™ Area Study

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

BOULDER CITY, NV 89005
BOULDER CITY, NV 89005

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems

EXECUTIVE SUMMARY

ICIS..... Integrated Compliance Information System
PADS..... PCB Activity Database System
MLTS..... Material Licensing Tracking System
RADINFO..... Radiation Information Database
FINDS..... Facility Index System/Facility Registry System
RAATS..... RCRA Administrative Action Tracking System
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing

STATE AND LOCAL RECORDS

SHWS..... Sites Database
SWF/LF..... Landfill List
SWRCY..... Recycling Information Listing
LUST..... Sites Database
UST..... Underground Storage Tank List
AST..... Aboveground Storage Tank List
VCP..... Voluntary Cleanup Program Sites
BROWNFIELDS..... Project Tracking Database
NPDES..... Permitted Facility Listing
AIRS..... Permitted Airs Facility Listing
TIER 2..... Hazardous Materials Repository Information Data

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land
INDIAN VCP..... Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

Manufactured Gas Plants..... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	0
RCRA-CESQG	0
RCRA-NonGen	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
DEBRIS REGION 9	0
ODI	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	0
RAATS	0
SCRD DRYCLEANERS	0
STATE AND LOCAL RECORDS	
SHWS	0
SWF/LF	0
SWRCY	0
LUST	0

MAP FINDINGS SUMMARY

Database	Total Plotted
UST	0
AST	0
VCP	0
BROWNFIELDS	0
NPDES	0
AIRS	0
TIER 2	0
TRIBAL RECORDS	
INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0
EDR PROPRIETARY RECORDS	
Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.)	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
APEX	1004755435	CHUCK LENZIE GENERATING STATION	11405 US HWY 93 N	89124	RCRA-SQG
BOULDER CITY	S106514489	VELTMAN PROPERTY	1553 AND 1559 INDUSTRIAL BOULEVARD		SHWS
BOULDER CITY	S107777382	US NPS - BOULDER BEACH	BOULDER BEACH		NPDES
BOULDER CITY	U003380153	BOULDER BEACH MAIN YARD- CLOSED	BOULDER BEACH MAIN YARD	89005	UST
BOULDER CITY	S103876000	BOULDER BEACH MAINTENANCE FACILITY	BOULDER BEACH MAINTENANCE YARD	89005	SHWS
BOULDER CITY	1008037729	BOULDER CITY	BOULDER CITY	89005	FINDS
BOULDER CITY	1000120171	EIC INTERNATIONAL	BOULDER DAM	89005	FINDS, RCRA-NonGen
BOULDER CITY	U003380553	SAME AS 8000195	BOULDER CITY RED MOUNTAIN	89005	UST
BOULDER CITY	S103875744	ARCO #1520	1025 BOULDER HIGHWAY	89005	SHWS
BOULDER CITY	S106870503	U.S. DEPARTMENT OF ENERGY	BUCHANAN BOULEVARD	89005	SHWS
BOULDER CITY	S103877083	BOULDER CITY TRANSFORMER SITE	DATE STREET COMPLEX		SHWS
BOULDER CITY	S103876056	U.S. BUREAU OF RECLAMATION	500 DATE STREET COMPLEX	89005	SHWS
BOULDER CITY	S106514407	LISA LESTER RESIDENCE	617 DON VICENTE	89005	SHWS
BOULDER CITY	S103876169	CCSD - BOULDER HIGH SCHOOL	1101 EAST FIFTH AVENUE	89005	SHWS
BOULDER CITY	1009715676	BOULDER CITY HIGH SCHOOL	1101 FIFTH AVE.	89005	FINDS
BOULDER CITY	S103875871	LAKEVIEW STATION	U.S. HIGHWAY 93	89005	SHWS
BOULDER CITY	S108250207	MCCULLOUGH SWITCHING STATION	U.S. HIGHWAY 95 (15 MILES SW BOULDER CITY)	89005	SHWS
BOULDER CITY	U003379770	HACIENDA HOTEL/CASINO (CHEVRON)	US HIGHWAY 93	89005	UST
BOULDER CITY	S108855791	MGI TRANSPORTATION MOBILE SOURCE , NORTHBOUND, RIG	U.S. HIGHWAY 95 @ MILE MARKER 055		SHWS
BOULDER CITY	S103877070	PCL CONSTRUCTION	HOOVER DAM JOB SITE		SHWS
BOULDER CITY	1000871107	MAST TECHNOLOGIES	14555 S HWY 95	89005	FINDS, RCRA-CESQG
BOULDER CITY	93328000	INTX U.S. HWY 95 & U.S. 93, VICINITY BOULDER CITY.	INTX U.S. HWY 95 & U.S. 93, VICINITY BOULDER CITY.		ERNS
BOULDER CITY	1003073256	BOULDER BEACH LANDFILL	LAKE MEAD NATIONAL RECREATION AREA	89005	CERC-NFRAP
BOULDER CITY	S109015101	LAKE MEAD NATIONAL RECREATION AREA , SBBI STAGING	LAKE MEAD MARINA	89005	SHWS
BOULDER CITY	1010034998	BOULDER BEACH WWTP	LAKESHORE RD	89005	FINDS
BOULDER CITY	S104235266	D. H. BLATNER & SONS	LAKESHORE ROAD		SHWS
BOULDER CITY	S106870586	U.S. DEPARTMENT OF ENERGY	MEAD SUBSTATION		SHWS
BOULDER CITY	94416117	1 MILE NORTH OF BOULDER CITY, US 93, KATZENBACH DRIVE	1 MILE NORTH OF BOULDER CITY, US 93, KATZENBACH DRIVE		ERNS
BOULDER CITY	1000402982	USDOE WAPA MEAD SUBSTATION	3 MILES SOUTH OF US 93 ON BUCHANAN	89005	FINDS, RCRA-CESQG
BOULDER CITY	S103877190	LOWE NORTH CONSTRUCTION	16 MILES EAST ON NELSON ROAD		SHWS
BOULDER CITY	U003380663	P & G AUTO REPAIR	801 NEV. HWY	89005	UST
BOULDER CITY	S103876144	FEDERAL AVIATION ADMINTRATION	RED MOUNTAIN/VORTEC	89005	SHWS
BOULDER CITY	1004754902	MCCULLOUGH SWITCHING STATION	12 MI S BOULDER CITY HWY 95	89005	FINDS, RCRA-CESQG
BOULDER CITY	S107777078	BOULDER RANCH QUARRY	2 SEARCHLIGHT RD		NPDES
BOULDER CITY	1000911886	ELDORADO SUBSTATION	20 MI SW BOULDER CITY	89005	FINDS, RCRA-CESQG
BOULDER CITY	94377719	UNKNOWN/SOMEWHERE IN BOULDER CITY	UNKNOWN/SOMEWHERE IN BOULDER CITY	89005	ERNS
BOULDER CITY	1007371300	USDOE WAPA HOOVER AZ NV 230 KV SWTCHYRD	3/4 MI W O HOOVER DAM RTE 93	89005	RCRA-CESQG
BOULDER CITY	1007990468	US DOI BOR DATE ST. DRAINAGE	300 YDS S OF COLORADO & HWY 93	89005	RCRA-NonGen
BOULDER CITY, NV	1008366445	NPS BOULDER BEACH	NATIONAL PARK SERVICE	89005	FINDS

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CACTUS SPRINGS	S103877695	CACTUS SPRINGS TRUCK STOP	99997 TONOPAH HIGHWAY, US 95	89124	SHWS
CLARK COUNTY	S108250295	QUE WEST TRANSPORT	INTERSTATE 15 @ MILE MARKER		SHWS
CLARK COUNTY	S108250101	FNF CONSTRUCTION	INTERSTATE 15 @ MILE MARKER		SHWS
CLARK COUNTY	S108250160	INTERPOINT TRANSPORTATION MOBILE SOURCE	INTERSTATE 15 @ EXIT		SHWS
CLARK COUNTY	S108250226	NELLIS AIR FORCE BASE	AREA 2, TANK		SHWS
CLARK COUNTY	S108250227	NELLIS AIR FORCE BASE	AREA 2, TANK		SHWS
CLARK COUNTY	S108250156	INDIAN SPRINGS AIR FORCE BASE	BOX CANYON		SHWS
CLARK COUNTY	S108250003	AMERICAN SAFETY INSTITUTE	U.S. HIGHWAY 95 @ U.S. HIGHWAY		SHWS
CLARK COUNTY	S108250110	FREHNER CONSTRUCTION	STATE ROUTE 376 @ MILE POST		SHWS
ENTERPRISE	S106870558	HOLDEN DEVELOPMENT COMPANY PROPERTY	BUFFALO DRIVE @ CACTUS AVENUE	89124	SHWS
HENDERSON	S103877055	WESTERN AREA POWER ADMINISTRATION	BASIC SUBSTATION (BMI COMPLEX)	89015	SHWS
HENDERSON	1009312346	CIRCLE K STORE NO 01309	1324 BOULDER HWY	89015	RCRA-NonGen
HENDERSON	1008037553	HENDERSON CITY OF	CITY OF HENDERSON	89015	FINDS
HENDERSON	1007144301	FIESTA PARK HOME DEVELOPMENT SITE	SE CORNER US 95 AND LAKE MEAD	89015	FINDS
HENDERSON	1007111827	FIESTA PARK HOME DEVELOPMENT SITE	SE CORNER US 95 AND LAKE MEAD	89015	RCRA-NonGen
HENDERSON	S106878314	HENDERSON COMMERCE CENTER	NW CORNER--GIBSON / WARM SPRINGS	89015	SHWS
HENDERSON	S104178890	STEPHANIE SHOP	565 EAST LALIF ROAD	89015	SHWS
HENDERSON	1000402983	USDOE WAPA BASIC SUBSTATION	1 MILE WEST OF US 93 ON MEAD DRIVE	89015	FINDS, RCRA-CESQG
HENDERSON	S103877135	WESTERN AREA POWER ADMINISTRATION	1/4 MILE EAST ON MAJOR AVENUE	89015	SHWS
HENDERSON	1010035160	HENDERSON, CITY OF	MOSER DRIVE FACILITY	89015	FINDS
HENDERSON	1010695901	HENDERSON CITY OF - ROFCS 17	* NOT GIVEN	89015	FINDS
HENDERSON	1010695900	HENDERSON CITY OF - ROFCS 16	* NOT GIVEN	89015	FINDS
HENDERSON	1010695899	HENDERSON CITY OF - R28	* NOT GIVEN	89015	FINDS
HENDERSON	1010695898	HENDERSON CITY OF - R-37	* NOT GIVEN	89015	FINDS
HENDERSON	1010695897	HENDERSON CITY OF - R-36	* NOT GIVEN	89015	FINDS
HENDERSON	1010695896	HENDERSON CITY OF - PUMP STN 6	* NOT GIVEN	89015	FINDS
HENDERSON	1010695895	HENDERSON CITY OF - PUMP STN 16	* NOT GIVEN	89015	FINDS
HENDERSON	1010695894	HENDERSON CITY OF - PUMP STN 14A	* NOT GIVEN	89015	FINDS
HENDERSON	1010695893	HENDERSON CITY OF - PUMP STATION 13	* NOT GIVEN	89015	FINDS
HENDERSON	1010695892	HENDERSON CITY OF - PUMP 21N	* NOT GIVEN	89015	FINDS
HENDERSON	1010695891	HENDERSON CITY OF - PUMP 14	* NOT GIVEN	89015	FINDS
HENDERSON	1010695890	HENDERSON CITY OF - PF18	* NOT GIVEN	89015	FINDS
HENDERSON	1010695889	HENDERSON CITY OF - PF17	* NOT GIVEN	89015	FINDS
HENDERSON	1010150533	HENDERSON CITY OF - STORAGE TANK R-15A	* NOT GIVEN	89015	FINDS
HENDERSON	1010150532	HENDERSON CITY OF - STORAGE TANK R-4A	* NOT GIVEN	89015	FINDS
HENDERSON	1010021669	HENDERSON CITY OF - STORAGE TANK R-15	* NOT GIVEN	89015	FINDS
HENDERSON	1010021668	HENDERSON CITY OF - STORAGE TANK R-7	* NOT GIVEN	89015	FINDS
HENDERSON	1010021667	HENDERSON CITY OF - ROFCS3 RATE OF FLOW CONTROL STN	* NOT GIVEN	89015	FINDS
HENDERSON	1010021666	HENDERSON CITY OF - ROFCS3	* NOT GIVEN	89015	FINDS
HENDERSON	1010021665	HENDERSON CITY OF - PUMP STN R-8	* NOT GIVEN	89015	FINDS
HENDERSON	1010021664	HENDERSON CITY OF - PUMP STN R-4	* NOT GIVEN	89015	FINDS
HENDERSON	1010021663	HENDERSON CITY OF - PUMP STN R-3A	* NOT GIVEN	89015	FINDS
HENDERSON	1010021662	HENDERSON CITY OF - PUMP STN R-3	* NOT GIVEN	89015	FINDS
HENDERSON	1010021661	HENDERSON CITY OF - PUMP STN R-2	* NOT GIVEN	89015	FINDS
HENDERSON	1010021660	HENDERSON CITY OF - PUMP STN R-1	* NOT GIVEN	89015	FINDS
HENDERSON	1010021421	HENDERSON CITY OF - PUMP STN R-9	* NOT GIVEN	89015	FINDS

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HENDERSON	1010021420	HENDERSON CITY OF - PUMP STN R-12	* NOT GIVEN	89015	FINDS
HENDERSON	1010021419	HENDERSON CITY OF - PUMP STN 4	* NOT GIVEN	89015	FINDS
HENDERSON	1010021418	HENDERSON CITY OF - PUMP STN R-8A	* NOT GIVEN	89015	FINDS
HENDERSON	1009792375	HENDERSON CITY OF - STORAGE TANK R-24 EAST OF R-23 750K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792374	HENDERSON CITY OF - STORAGE TANK R-23A E BOUNDARY 710K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792373	HENDERSON CITY OF - STORAGE TANK R-23 E BOUNDARY 710K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792372	HENDERSON CITY OF - STORAGE TANK R-22 SO ANTHEM 2MG 300K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792368	HENDERSON CITY OF - STORAGE TANK R-21 ANTHEM 2MG 300K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792366	HENDERSON CITY OF - STORAGE TANK R-20 SOUTH EASTERN 2MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009792357	HENDERSON CITY OF - STORAGE TANK R-19 FOREBAY 3MG 100K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792355	HENDERSON CITY OF - STORAGE TANK R-19 SOUTH EASTERN 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009792006	HENDERSON CITY OF - STORAGE TANK R-27 FTHLS VILLAGE 600K	* NOT GIVEN	89015	FINDS
HENDERSON	1009792005	HENDERSON CITY OF - STORAGE TANK R-25 S GIBSON 10MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009792004	HENDERSON CITY OF - STORAGE TANK R-24A EAST OF R-23 750K	* NOT GIVEN	89015	FINDS
HENDERSON	1009791858	HENDERSON CITY OF - STORAGE TANK R-18 CARMICHAEL 2MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009743086	HENDERSON CITY OF - LAKE MEAD SURFACE WATER PLANT	* NOT GIVEN	89015	FINDS
HENDERSON	1009742621	HENDERSON CITY OF - IN FROM LAKE MEAD	* NOT GIVEN	89015	FINDS
HENDERSON	1009742618	HENDERSON CITY OF - DISTRIBUTION SYSTEM	* NOT GIVEN	89015	FINDS
HENDERSON	1009742617	HENDERSON CITY OF - CHLORINATOR FOR CC FROM RM TP AT SNWS	* NOT GIVEN	89015	FINDS
HENDERSON	1009742614	HENDERSON CITY OF - CHLORINATOR FOR CC FROM AMS TP AT SNWS	* NOT GIVEN	89015	FINDS
HENDERSON	1009742613	HENDERSON CITY OF - CC FROM RM TP AT SNWS NV0000289	* NOT GIVEN	89015	FINDS
HENDERSON	1009742612	HENDERSON CITY OF - CC FROM AMS TP AT SNWS NV0000289	* NOT GIVEN	89015	FINDS
HENDERSON	1009674724	HENDERSON CITY OF - STORAGE TANK R-17A BENJI 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674723	HENDERSON CITY OF - STORAGE TANK R-17 BENJI 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674722	HENDERSON CITY OF - STORAGE TANK R-16A E PEBBLE 8MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674721	HENDERSON CITY OF - STORAGE TANK R-16 E PEBBLE 3MG	* NOT GIVEN	89015	FINDS

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HENDERSON	1009674720	HENDERSON CITY OF - STORAGE TANK R-14 PROMONTORY 14MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674719	HENDERSON CITY OF - STORAGE TANK R-13 STEPHANIE 1MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674718	HENDERSON CITY OF - STORAGE TANK R-12 SOUTH PS12 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674716	HENDERSON CITY OF - STORAGE TANK R-11 CALICO RIDGE 5MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674715	HENDERSON CITY OF - STORAGE TANK R-10 RAILROAD PASS 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674714	HENDERSON CITY OF - STORAGE TANK R-9 E EQUESTRIAN 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674713	HENDERSON CITY OF - STORAGE TANK R-8 EQUESTRIAN 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674712	HENDERSON CITY OF - STORAGE TANK R-6 LAKE LV 1MG 500K	* NOT GIVEN	89015	FINDS
HENDERSON	1009674711	HENDERSON CITY OF - STORAGE TANK R-5 SAN GREGORIO 750K	* NOT GIVEN	89015	FINDS
HENDERSON	1009674710	HENDERSON CITY OF - STORAGE TANK R-4 S GREENWAY 1MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674709	HENDERSON CITY OF - STORAGE TANK R-3A GREENWAY 1MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674708	HENDERSON CITY OF - STORAGE TANK R-3 GREENWAY 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674707	HENDERSON CITY OF - STORAGE TANK R-2A MONA 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674706	HENDERSON CITY OF - STORAGE TANK R-2 MONA 3MG	* NOT GIVEN	89015	FINDS
HENDERSON	1009674705	HENDERSON CITY OF - STORAGE TANK R-1A HORIZON 1MG 500K	* NOT GIVEN	89015	FINDS
HENDERSON	1009674691	HENDERSON CITY OF - STORAGE TANK R-1 HORIZON 3MG 750K	* NOT GIVEN	89015	FINDS
HENDERSON	1000707641	HENDERSON LEAD CONTAMINATION SOIL SITE	T21S, R63E, SEC 26,27,34,35 - 5 MI. E OF	89015	CERCLIS, FINDS
HENDERSON	S107777170	HENDERSON, CITY OF	240 WATER STREET	89015	NPDES
LAS VEGAS	U003380396	SAME AS 8001386	HCR 38 HIGHWAY 156	89124	UST
LAS VEGAS	1000638936	US AVESTOR LLC	11101 US HWY 93 N	89124	FINDS, RCRA-NonGen
LAS VEGAS	1000911881	USDA FOREST SERVICE KYLE CANYON	MILEPOST 3 HWY 157 18 MI W OF	89124	FINDS, RCRA-NonGen
LAS VEGAS	1009790338	CITY VUE MHP - WELL 1	* NOT GIVEN	89124	FINDS
LAS VEGAS	1009789835	CITY VUE MHP - STORAGE TANK 1 15K	* NOT GIVEN	89124	FINDS
LAS VEGAS	S103877684	MT. CHARLESTON MAINTENANCE STATION	STATE ROUTE 157	89124	SHWS
LAS VEGAS	U003380361	CACTUS SPRINGS TRUCK STOP	99997 TONOPAH HIGHWAY US 95	89124	UST
LAS VEGAS	S108514222	MCI - BLACK MOUNTAIN	TOP OF BLACK MOUNTAIN	89005	SHWS
MERCURY NEVADA	98450022	NEVADA TEST SITE HWY 95	NEVADA TEST SITE HWY 95	89124	ERNS
MOUNTAIN SPRINGS	S106514230	NEVADA DEPARTMENT OF TRANSPORTATION	STATE ROUTE 160 @ MILEPOST 21.30	89124	SHWS
MT. CHARLESTON	S103875760	AT&T - ANGEL PEAK	ANGEL PEAK	89124	SHWS
MT. CHARLESTON	S109273028	U.S. FOREST SERVICE , 128-32-000-001	KYLE CANYON RANGER STATION	89124	SHWS
MT. CHARLESTON	S103876029	SPRING MOUNTAIN YOUTH CAMP , 36.3190; -115.5826	LEE CANYON-ANGEL PEAK	89124	SHWS, LUST

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MT. CHARLESTON	S103877639	LEE CANYON FIRE STATION	STATE ROUTE 156	89124	SHWS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/07/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 53

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 11/20/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/11/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 34

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 08/08/2008
Number of Days to Update: 72

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 10/31/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 02/10/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/15/2008
Date Data Arrived at EDR: 10/22/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 62

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/21/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 55

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/07/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/23/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 03/17/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 02/18/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 12/04/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/31/2008
Date Data Arrived at EDR: 08/13/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/03/2008
Date Data Arrived at EDR: 10/15/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 35

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/28/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/30/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/19/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Biennially

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 12/08/2008
Date Data Arrived at EDR: 12/09/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 97

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

SHWS: Sites Database

A listing of correction action sites.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 01/14/2009
Date Made Active in Reports: 03/10/2009
Number of Days to Update: 55

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 01/14/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SWF/LF: Landfill List
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 07/03/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 09/30/2008
Number of Days to Update: 7

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 12/23/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Annually

SWRCY: Recycling Information Listing
A listing of recycling facilities in Nevada.

Date of Government Version: 07/11/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/30/2008
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 775-687-9463
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

LUST: Sites Database
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 01/14/2009
Date Made Active in Reports: 03/10/2009
Number of Days to Update: 55

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 01/14/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

UST: Underground Storage Tank List
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/04/2008
Number of Days to Update: 19

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 01/14/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

AST: Aboveground Storage Tank List
Registered Aboveground Storage Tanks.

Date of Government Version: 01/10/2000
Date Data Arrived at EDR: 01/11/2000
Date Made Active in Reports: 02/16/2000
Number of Days to Update: 36

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites
The Voluntary Cleanup Program provides relief from liability to owners who undertake cleanups of contaminated properties under the oversight of the Nevada Division of Environmental Protection.

Date of Government Version: 12/03/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/10/2009
Number of Days to Update: 70

Source: Department of Conservation & Natural Resources
Telephone: 775-687-9381
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BROWNFIELDS: Project Tracking Database

Brownfields sites included in the Project Tracking Database. The term "brownfields" is used to describe abandoned, idled, or underused industrial or commercial properties taken out of productive use because of real or perceived risks from environmental contamination. The State of Nevada has initiated Brownfields, a land-recycling program, to provide an opportunity to redevelop these undesirable properties and revitalize communities.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 01/14/2009
Date Made Active in Reports: 03/10/2009
Number of Days to Update: 55

Source: Division of Environmental Protection
Telephone: 775-687-9384
Last EDR Contact: 01/14/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 10/20/2008
Date Data Arrived at EDR: 10/21/2008
Date Made Active in Reports: 11/06/2008
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 775-687-9414
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

AIRS: Permitted Airs Facility Listing

A listing of permitted Airs facilities and their associated emissions information.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 10/10/2006
Number of Days to Update: 40

Source: Division of Environmental Protection
Telephone: 775-687-9359
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

HMRI: Hazardous Materials Repository Information Data

Emergency Planning and Community Right-to-Know Act (EPCRA) required facilities which store or manufacture hazardous materials to prepare and submit a chemical inventory report by March 1st of each year to the State Emergency Response Commission (SERC), LEPC and the local fire department. The inventory form must include information on all hazardous chemicals present at the facility during the previous calendar year in amounts that meet or exceed thresholds.

Date of Government Version: 08/05/2008
Date Data Arrived at EDR: 08/05/2008
Date Made Active in Reports: 08/13/2008
Number of Days to Update: 8

Source: State Emergency Response Commission
Telephone: 775-687-6973
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Semi-Annually

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/18/2008
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 12/02/2008
Date Data Arrived at EDR: 12/04/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 19

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/03/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 20

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/15/2009
Date Data Arrived at EDR: 02/27/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 17

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/25/2008
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 27

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 12/01/2008
Date Data Arrived at EDR: 12/04/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 19

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/18/2008
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

WASHOE COUNTY:

Underground Storage Tank in Washoe County
A listing of underground storage tank sites located in Washoe County.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/01/2008
Date Made Active in Reports: 11/04/2008
Number of Days to Update: 34

Source: Washoe County Department of Environmental Health
Telephone: 775-328-2493
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Quarterly

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 12/11/2008
Date Made Active in Reports: 03/19/2009
Number of Days to Update: 98

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/27/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 03/12/2009
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/25/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

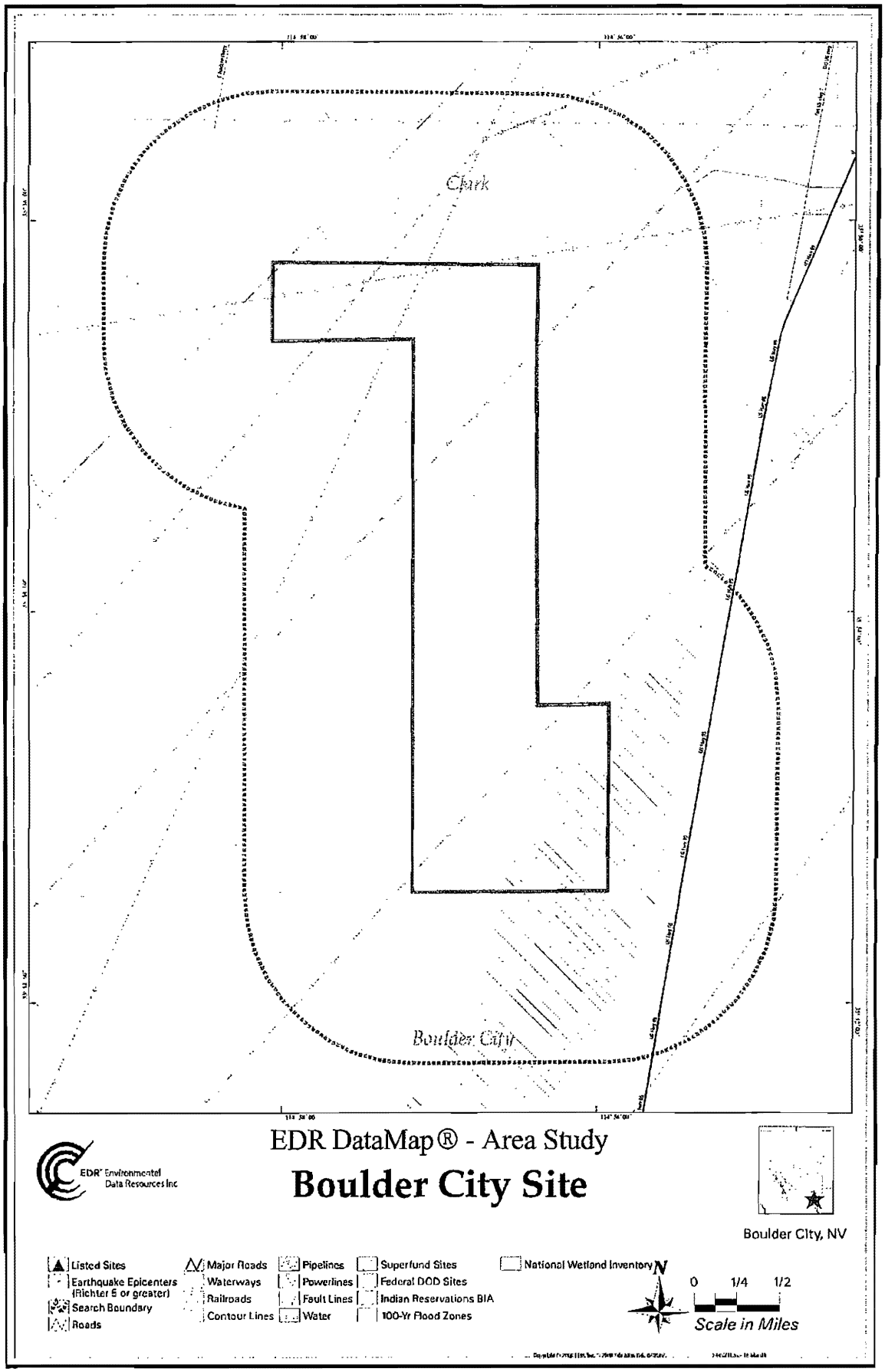
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Human Resources
Telephone: 775-684-1100

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION



EDR DataMap® - Area Study

Boulder City Site

EDR Environmental Data Resources Inc

Boulder City, NV

Listed Sites
Earthquake Epicenters (Richter 5 or greater)
Search Boundary
Roads
Major Roads
Waterways
Railroads
Contour Lines
Pipelines
Powerlines
Fault Lines
Water
Superfund Sites
Federal DOD Sites
Indian Reservations BIA
100-Yr Flood Zones
National Wetland Inventory

N

0 1/4 1/2

Scale in Miles

APPENDIX E
AAI USER QUESTIONNAIRE

URS

Phase I ESA
NextLight Boulder City Project Site
Clark County, Nevada
March 2009

AAI Questionnaire

Completed by Brok Armantrout
Director, Community Development
City of Boulder City

In accordance with ASTM 1527-05 and in order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the user (client or client representative) must provide the following information (if available) to the *environmental professional* (URS). Failure to provide this information could result in a determination that "*all appropriate inquiry*" (AAI) is not complete.

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

   Not aware of any.

2. Are you aware of any area use limitations (AULs), such as engineering controls, land use restriction or institutional controls that are in place at the property and/or have been filed or recorded in a registry under federal, trial, state or local law?

   Local zoning laws restrict the use of the land to solar energy development and similar uses.

3. As the *user* of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property, so that you would have specialized knowledge of the chemicals and processes used by this type of business?

   I have no unique knowledge. The site has not been previously developed – it is virgin desert.

4. Does the purchase price being paid for this property reasonable reflect the fair market value of the property? If you conclude that there is a difference, have

you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

Boulder City does not sell land – it leases land. Value is set by state law which requires that any public property to be disposed of by either sale or lease to be appraised by two appraisers, and that the City has to use the higher of the two appraisals to set the price.

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No

a. Do you know the past uses of the property?

Past use of property – vacant land. Never developed.

b. Do you know of specific chemicals that are present or once were present at the property?

Property has never been developed, therefore no chemicals previously present

c. Do you know of spills or chemical releases that have taken place at the property?

No known instances of spills or chemical releases on the property. Property has never been developed. It is raw, virgin desert.

d. Do you know of any environmental cleanups that have taken place at the property?

No known environmental cleanups have taken place on the property. It is raw, vacant, never disturbed virgin desert.

6. As the *user* of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?

There are not indicators present on the property that would suggest the presence or likely presence of contamination on the property.

URS

In addition to the above questions, certain information should be collected, if available, and provided to the *environmental professional.* This information is intended to assist the *environmental professional*, but is not necessarily required to qualify for one of the LLPs.

7. The reason why the ESA is required (i.e. sale, purchase, exchange, etc.).

   The property is to be leased for development from a public entity (City of Boulder City, Nevada)

8. The complete name, correct address and/or parcel number for the property (a map or other documentation showing property location and boundaries is helpful).

   Portions of APN # 21300001001, APN# 21300001012, APN# 20700002018 and APN# 20700002017

9. A description of the property (i.e. acreage, square footage, number of buildings, other structures, age of buildings, above/underground storage tanks, etc.)

   Site acreage – approximately 1,150 acres
   Buildings – none
   Above/underground storage tanks – none
   See map for property shape and location

10. Knowledge or previous owners and/or previous uses of the property?

    Prior ownership: **Colorado River Commission**
    Federal Government

    Prior Uses: **Vacant land, never developed**

11. Current or previous deeds?

    Attached.

12. The site contact name and number.

    Brok Armantrout
    Director, Community Development Department
    City of Boulder City, Nevada
    POB 61350
    Boulder City, NV 89006

URS

702-293-9282
barmantrout@bcnv.org

13. Previous reports available? Any other available documentation, correspondence, etc. concerning the environmental condition of the property?

None available.

EXHIBIT B

A.L.T.A. MAP

A.L.T.A. MAP

COUNTY OF CLARK —— STATE OF NEVADA
CITY OF BOULDER CITY
NEXTLIGHT RENEWABLE POWER, LLC — LEASE AREA
PORTIONS OF
THE SOUTHEAST QUARTER (SE1/4) SECTION 31, AND THE SOUTHWEST QUARTER (SW1/4) SECTION 32, T24S, R63 E, M.D.M AND PORTIONS OF SECTION 5, AND SECTION 8, T25S, R63E, M.D.M.

DIGEST OF TITLE ITEMS PER FIDELITY NATIONAL TITLE INSURANCE COMPANY, INC.
ORDER NO. FTD1-FT0500002660

LEGAL DESCRIPTION

THOSE PORTIONS OF SECTION 31 AND SECTION 32, TOWNSHIP 24 SOUTH, RANGE 63 EAST, M.D.M., SECTION 5 AND SECTION 8, TOWNSHIP 25 SOUTH, RANGE 63 EAST, M.D.M., IN THE CITY OF BOULDER CITY, COUNTY OF CLARK, STATE OF NEVADA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 8, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE SOUTH 00°24'21" EAST 2639.29 ALONG THE EAST LINE OF SAID SECTION 8 TO THE EAST QUARTER CORNER OF SAID SECTION 8, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE SOUTH 00°23'51" EAST 2639.17 FEET ALONG THE EAST LINE OF SAID SECTION 8; THENCE SOUTH 89°40'17" WEST 2641.54 FEET ALONG THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 8 TO THE SOUTH QUARTER CORNER OF SAID SECTION 8, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE SOUTH 89°40'17" WEST 2118.97 FEET TO THE SOUTHEAST CORNER OF LEASE AREA NO. 1 AS PER MAP RECORDED IN FILE 177 PAGE 32 OF SURVEYS IN THE OFFICE OF THE CLARK COUNTY, RECORDER, SAID POINT BEING AN ALUMINUM CAP STAMPED "D.E. RADIG, INC. PLS 7832"; THENCE ALONG SAID LEASE AREA NO. 1 THE FOLLOWING SEVEN (7) COURSES:
1) NORTH 00°19'43" WEST 5280.92 FEET ALONG THE EAST LINE OF SAID LEASE AREA NO. 1 TO A POINT ON SECTION LINE BETWEEN SAID SECTION 5 AND SECTION 8, SAID POINT BEING A NAIL AND BRASS TAG STAMPED "PLS 7832";
2) THENCE NORTH 89°19'36" EAST 5124.23 FEET ALONG SAID SECTION LINE TO A POINT ON THE EASTERLY RIGHT-OF-WAY OF SOUTHWEST GAS CORPORATION AS PER BUREAU OF LAND MANAGEMENT RIGHT-OF-WAY SERIAL NUMBER N-76617;
3) THENCE NORTH 04°39'00" WEST 5094.13 FEET ALONG SAID RIGHT-OF-WAY;
4) THENCE SOUTH 87°36'00" WEST 2717.19 FEET ALONG THE NORTH LINE OF THE NEVADA SOLAR ONE LEASE AREA AS PER MAP RECORDED IN FILE 138 PAGE 80 OF SURVEYS IN THE RECORDER'S OFFICE OF CLARK COUNTY, SAID POINT BEING THE NORTHWEST CORNER OF THE NEVADA SOLAR ONE LEASE AREA;
5) THENCE SOUTH 00°23'51" WEST 2072.61 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 31;
6) THENCE NORTH 89°39'58" EAST 2644.64 FEET ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER (SE1/4) OF SAID SECTION 31 TO THE QUARTER SECTION CORNER OF SAID SECTION 31 AND SAID SECTION 32, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP;
7) THENCE NORTH 89°36'48" EAST 2641.40 FEET ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SAID SECTION 32 TO THE CENTER QUARTER CORNER FOR SECTION 32; THENCE SOUTH 0°23'51" EAST 2638.15 FEET ALONG SAID CENTERLINE OF SECTION 32; THENCE NORTH 89°33'01" EAST 231.90 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 5, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE LEAVING SAID NORTH LINE BETWEEN TOWNSHIP 24 SOUTH AND TOWNSHIP 25 SOUTH, RANGE 63 EAST, M.D.M., SOUTH 00°24'21" EAST 5281.21 FEET ALONG THE CENTERLINE OF SAID SECTION 5 TO QUARTER SECTION CORNER FOR SAID SECTION 5 AND SAID SECTION 8; THENCE NORTH 89°41'25" EAST 2640.80 FEET ALONG THE SECTION LINE BETWEEN SECTION 5 AND SECTION 8 TO THE POINT OF BEGINNING.

CONTAINS 1139.20 ACRES

ITEM NO.	PURPOSE	FOR	IN FAVOR OF	RECORDING DATA
1	TAXES			
2	LIEN OF SUPPLEMENTAL TAXES			
3	SPECIAL ASSESSMENTS			
4	WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT DISCLOSED BY PUBLIC RECORDS.			
(5)	PATENTS	MINERAL RIGHTS, RESERVATIONS, EASEMENTS AND EXCLUSIONS		AUG. 26, 1996 BOOK 960829 DOC. NO. 62319
6	RECORD OF SURVEY			FILE 88 PAGE 98 OF SURVEYS, MAY 7, 1997
7	RECORD OF SURVEY			FILE 89 PAGE 24 OF SURVEYS, MAY 22, 1997
(8)	EASEMENT	INGRESS AND EGRESS	EL DORADO ENERGY, LLC	MAY 11, 1998 BOOK 980511 DOC. NO. 01113
(9)	EASEMENT	GAS PIPELINE OR PIPELINES AND APPURTENANCES	SOUTHWEST GAS CORPORATION	MAY 11, 1998 BOOK 980511 DOC. NO. 01114
				OCTOBER 12, 1998 BOOK 981015 DOC. NO. 00928
				JULY 20, 2007 BOOK 20070720 DOC. NO. 0003224
(10)	EASEMENT	UNDERGROUND TELEPHONE SYSTEM	NEVADA DIVISION CENTRAL TELEPHONE COMPANY	JULY 22, 1998 BOOK 980722 DOC. NO. 00703
				JULY 20, 2007 BOOK 20070720 DOC. NO. 0003221
(11)	EASEMENT	FIBER OPTIC PURPOSES	SYC LONG DISTANCE INC.	JUNE 6, 2004 BOOK 20040604 DOC. NO. 0004203
12	RECORD OF SURVEY			FILE 139 PAGE 80 OF SURVEYS, JULY 26, 2004
(13)	EASEMENT	INGRESS AND EGRESS	NEVADA SOLAR ONE, LLC	MAY 18, 2006 BOOK 20060518 DOC. NO. 0002749
				JULY 12, 2007 BOOK 20070719 DOC. NO. 0004458
(14)	EASEMENT	PUBLIC UTILITIES	ALL UTILITY COMPANIES WITH A FRANCHISE AGREEMENT	JUNE 30, 2006 BOOK 20060630 DOC. NO. 0002749
(15)	TERMS, COVENANTS, CONDITIONS AND PROVISIONS			NOV. 1, 2006 BOOK 20061101 DOC. NO. 0005499
	ASSIGNMENT OF RIGHTS OF ENTRY		NEVADA SOLAR ONE, LLC	JULY 20, 2007 BOOK 20070720 DOC. NO. 0003228
	AMENDMENT OF RIGHT OF ENTRY AGREEMENT			JULY 20, 2007 BOOK 20070720 DOC. NO. 0003231
16	MEMORANDUM OF OPTION			JULY 20, 2007 BOOK 20070720 DOC. NO. 0003232
(17)	EASEMENT	UNOBSTRUCTED SUNLIGHT	NEVADA SOLAR ONE, LLC	JULY 20, 2007 BOOK 20070720 DOC. NO. 0003233
(18)	LEASE	MEMORANDUM OF SITE SUBLEASE	NEVADA SOLAR ONE, LLC	JULY 23, 2007 BOOK 20070725 DOC. NO. 0004627
(19)	LEASE	MEMORANDUM OF SITE SUBLEASE	NEVADA SOLAR ONE, LLC	JULY 23, 2007 BOOK 20070725 DOC. NO. 0004628
(20)	DEED OF TRUST			JULY 23, 2007 BOOK 20070725 DOC. NO. 0004629
21	FINANCING STATEMENT			JULY 23, 2007 BOOK 20070725 DOC. NO. 0004630
22	FINANCING STATEMENT			JULY 23, 2007 BOOK 20070725 DOC. NO. 0004631
23	JOINT DEVELOPMENT AND LEASE AGREEMENT			SEPT. 18, 2002 BOOK 20030918 DOC. NO. 03192
	AMENDMENT TO JOINT DEVELOPMENT AND LEASE AGREEMENT			DEC. 1, 2004 BOOK 20041201 DOC. NO. 03031
24	JOINT DEVELOPMENT AND LEASE AGREEMENT			SEPT. 18, 2002 BOOK 20020918 DOC. NO. 03192
(25)	MEMORANDUM OF LEASE		NEVADA SOLAR ONE, LLC	JULY 12, 2007 BOOK 20070719 DOC. NO. 0004455
26	ELECTRICAL SUBSTATION		NEVADA POWER COMPANY	JULY 30, 2007 BOOK 20070730 DOC. NO. 0004227
27	RECORD OF SURVEY			FILE 174 PAGE 54 OF SURVEYS, NOVEMBER 30, 2006
28	RECORD OF SURVEY			FILE 177 PAGE 32 OF SURVEYS, FEBRUARY 4, 2008
29	REFER TO TITLE REPORT FOR DETAILS			
30	REFER TO TITLE REPORT FOR DETAILS			
31	REFER TO TITLE REPORT FOR DETAILS			
32	REFER TO TITLE REPORT FOR DETAILS			
33	REFER TO TITLE REPORT FOR DETAILS			
34	REFER TO TITLE REPORT FOR DETAILS			
35	REFER TO TITLE REPORT FOR DETAILS			
36	REFER TO TITLE REPORT FOR DETAILS			

○ INDICATES PLOTTED ITEM

NOTE: ITEMS 8, 9, 11, 25 AND 29 ARE NOT PLOTTABLE ON THIS DRAWING.

SURVEYOR'S CERTIFICATE

THE UNDERSIGNED, BEING A PROFESSIONAL LAND SURVEYOR IN THE STATE OF NEVADA, CERTIFIES TO NEXTLIGHT RENEWABLE POWER, LLC, AND FIDELITY NATIONAL TITLE INSURANCE COMPANY, INC., ITS SUCCESSORS AND ASSIGNS:

1. THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "MINIMUM ANGLE, DISTANCE, AND CLOSURE REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA, ACSM AND NSPS IN 2005 AND INCLUDES ITEMS 1, 2, 3, 4, 5, 11 (A), 13, 14, 16, 17, AND 18 OF TABLE "A" THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY ALTA, NSPS, AND ACSM AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT THE SURVEY MEASUREMENTS WERE MADE IN ACCORDANCE WITH THE "MINIMUM ANGLE, DISTANCE, AND CLOSURE REQUIREMENTS WHICH CONTROL LAND BOUNDARIES FOR ALTA/ACSM SURVEYS".

2. THE SURVEY WAS MADE ON THE GROUND ON JUNE 23, 2008 AND CORRECTLY SHOWS THE AREA OF THE SUBJECT PROPERTY OR ANY OTHER EASEMENTS OR RIGHTS-OF-WAY OF WHICH THE UNDERSIGNED HAS BEEN ADVISED.

3. EXCEPT AS SHOWN ON THE SURVEY, THERE ARE NO VISIBLE EASEMENTS OR RIGHTS-OF-WAY ACROSS THE SUBJECT PROPERTY OR ANY OTHER EASEMENTS OR RIGHTS-OF-WAY OF WHICH THE UNDERSIGNED HAS BEEN ADVISED.

4. EXCEPT AS SHOWN ON THE SURVEY, THERE ARE NO PARTY WALLS OR CONFLICTS AND NO OBSERVABLE ABOVE-GROUND ENCROACHMENTS (A) BY THE IMPROVEMENTS ON THE SUBJECT PROPERTY UPON THE ADJOINING PROPERTIES, STREETS OR ALLEYS, OR (B) BY THE IMPROVEMENTS ON ADJOINING PROPERTIES, STREETS OR ALLEYS UPON THE SUBJECT PROPERTY.

5. THE LOCATION OF EACH EASEMENT, RIGHT-OF-WAY, SERVITUDE AND OTHER MATTERS AFFECTING THE SUBJECT PROPERTY LISTED IN THE ORDER NO. FTD1-FT0500002660, ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, INC., WITH RESPECT TO THE SUBJECT PROPERTY, HAS BEEN SHOWN ON THE SURVEY, TOGETHER WITH APPROPRIATE RECORDING REFERENCES. TO THE EXTENT THAT SUCH MATTERS CAN BE LOCATED, THE PROPERTY SHOWN ON THE SURVEY IS THE PROPERTY DESCRIBED IN THE TITLE REPORT. THE LOCATION OF ALL IMPROVEMENTS ON THE SUBJECT PROPERTY IS IN ACCORD WITH MINIMUM SETBACK PROVISIONS AND RESTRICTIONS OF RECORD REFERENCED IN SUCH TITLE REPORT.

6. THE SUBJECT PROPERTY HAS ACCESS TO AND FROM A DULY DEDICATED AND ACCEPTED PUBLIC STREET OR HIGHWAY, AND SAID RIGHTS-OF-WAY ARE DEDICATED AND ACCEPTED BY THE CITY OF BOULDER CITY.

7. EXCEPT AS SHOWN ON THE SURVEY, THE SUBJECT PROPERTY DOES NOT SERVE ANY ADJOINING PROPERTY FOR DRAINAGE, UTILITIES, OR INGRESS OR EGRESS.

8. THE RECORD DESCRIPTION OF THE SUBJECT PROPERTY FORMS A MATHEMATICALLY CLOSED FIGURE.

9. NO PORTION OF THE LEASE AREA SHOWN ON THE SURVEY LIES WITHIN A SPECIAL HAZARD AREA, AS DESCRIBED ON THE FLOOD INSURANCE RATE MAP #32003C3300, REVISED SEPTEMBER 27, 2002.

10. THE PROPERTY IS ZONED AS "PF", ENERGY RESOURCE. THERE ARE NO SETBACKS, HEIGHT RESTRICTIONS OR BULK RESTRICTIONS IN THE ZONING ORDINANCE.

TOTAL AREA = 1139.20 ACRES

ADDRESS: 525 ELDORADO VALLEY DRIVE, BOULDER CITY, NEVADA

ASSESSOR'S PARCEL NUMBERS:

207-00-402-017 PORTION OF SECTION 31, T24S, R63E, M.D.M.
207-00-402-018 PORTION OF SECTION 32, T24S, R63E, M.D.M.
212-00-001-003 PORTION OF SECTION 5, T25S, R63E, M.D.M. AND
212-00-001-011 PORTION OF SECTION 8, T25S, R63E, M.D.M.

RICHARD A. ARDITH
PROFESSIONAL LAND SURVEYOR
NEVADA CERTIFICATE NO. 7832

REFERENCES

R.1 - GOVERNMENT LAND OFFICE INDEPENDENT RESURVEY OF T25S R63E, M.D.M., 1870/58 TO 1/1956.

R.2 - GOVERNMENT LAND OFFICE INDEPENDENT RESURVEY OF T25S R63E, M.D.M., 5/8/40 TO 4/5/41

R.3 - FILE 88, PAGE 7 OF SURVEYS

R.4 - O.R. BOOK 1 INST. NO. 204

R.5 - O.R. BOOK 960618 INST. NO. 00631

R.6 - FILE 89 PAGE 66 OF SURVEYS

R.7 - O.R. BOOK 980511 INST. NO. 01112

R.8 - O.R. BOOK 981012 INST. NO. 00928

R.9 - O.R. BOOK 980620 INST. NO. 00750

R.10 - O.R. BOOK 980719 INST. NO. 01159

R.11 - O.R. BOOK 990420 INST. NO. 01350

R.12 - FILE 108 PAGE 57 OF SURVEYS

R.13 - O.R. BOOK 20060324 INST. NO. 04126

R.14 - FILE 80 PAGE 16 OF SURVEYS

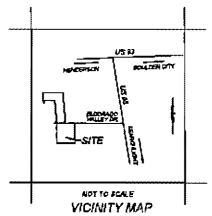
R.15 - FILE 108 PAGE 57 OF SURVEYS

R.16 - FILE 174 PAGE 42 OF SURVEYS

THIS SURVEY HAS BEEN PREPARED FOR TITLE INSURANCE PURPOSES

THE DATA SHOWN ON THIS SURVEY WAS PREPARED FOR USE BY A TITLE INSURANCE COMPANY FOR ALTA TITLE PURPOSES. THE BOUNDARY DATA AND TITLE MATTERS SHOWN HEREON HAVE BEEN DEVELOPED FROM ORDER NO. FTD1-FT0500002660 BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, INC.

THIS SURVEY MAY NOT CONTAIN SUFFICIENT DATA FOR ARCHITECTURAL DESIGN PURPOSES



NOT TO SCALE
VICINITY MAP

SHEET 1 OF 3

A.L.T.A. MAP
COUNTY OF CLARK —— STATE OF NEVADA
CITY OF BOULDER CITY
NEXTLIGHT RENEWABLE POWER, LLC — LEASE AREA
PORTIONS OF
THE SE1/4, SECTION 31, AND THE SW1/4, SECTION 32, T24S, R63 E, M.D.M
AND PORTIONS OF
SECTION 5, AND SECTION 8, T25S, R63E, M.D.M

SCALE: NA	FOR: NEXTLIGHT RENEWABLE POWER, LLC
DATE: JULY 2, 2008	DRAWN BY: RAA

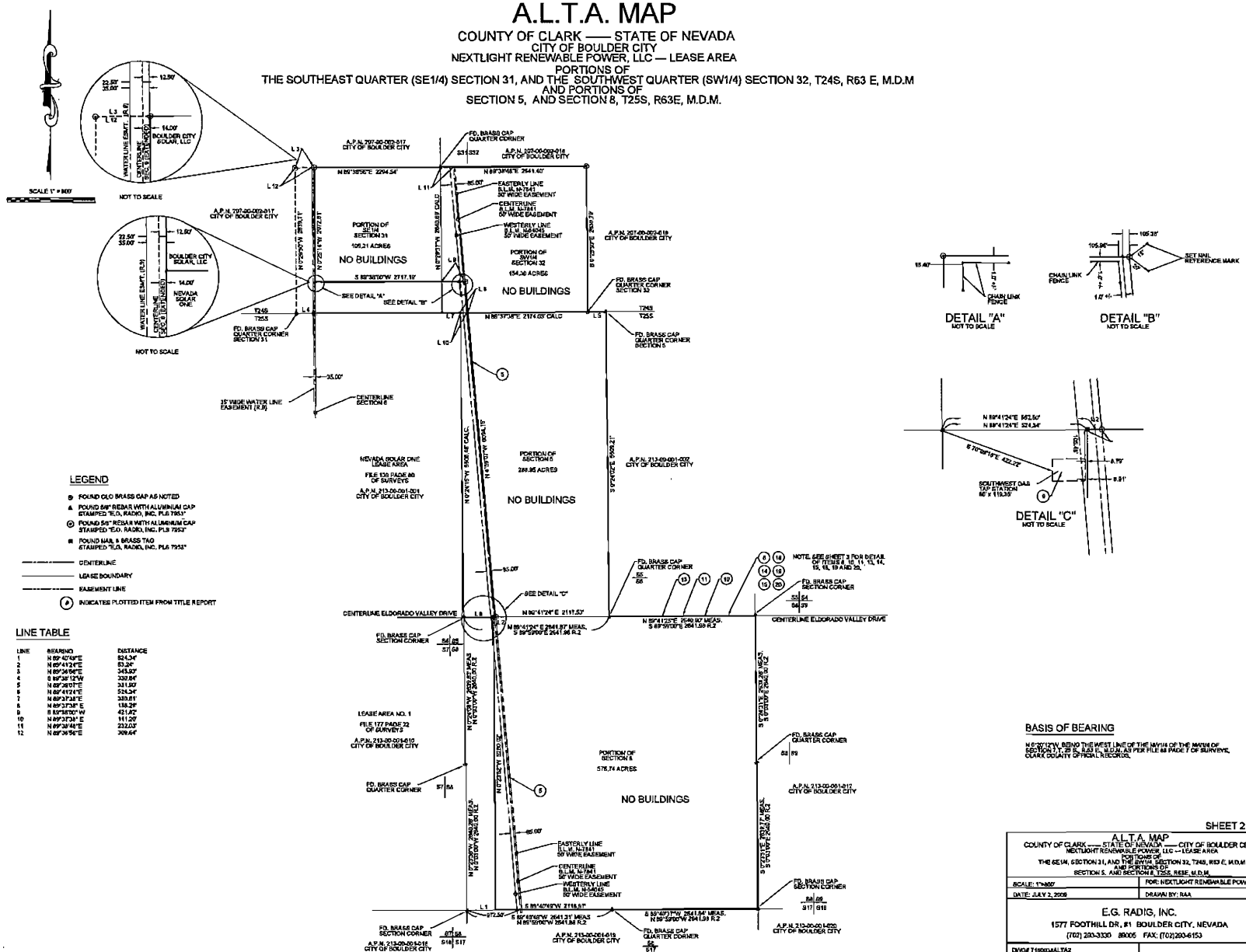
E.G. RADIG, INC.
1577 FOOTHILL DRIVE SUITE 1
BOULDER CITY, NEVADA 89005
(702) 293-3530 FAX (702) 293-4153

DIGORTHOMALT44

JOB NO. 715.038

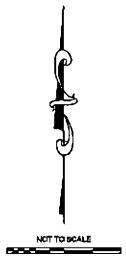
A.L.T.A. MAP

COUNTY OF CLARK — STATE OF NEVADA
CITY OF BOULDER CITY
NEXTLIGHT RENEWABLE POWER, LLC — LEASE AREA
PORTIONS OF
THE SOUTHEAST QUARTER (SE1/4) SECTION 31, AND THE SOUTHWEST QUARTER (SW1/4) SECTION 32, T24S, R63 E, M.D.M
AND PORTIONS OF
SECTION 5, AND SECTION 8, T25S, R63E, M.D.M.

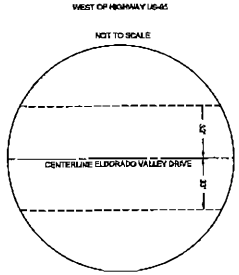

SCALE 1" = 800'
NOT TO SCALE
BOULDER CITY SOLAR, LLC
NEVADA SOLAR ONE
NO BUILDINGS
PORTION OF SE1/4 SECTION 31
105.21 ACRES
PORTION OF SW1/4 SECTION 32
154.30 ACRES
PORTION OF SECTION 5
289.95 ACRES
PORTION OF SECTION 8
576.74 ACRES
CENTERLINE ELDORADO VALLEY DRIVE
FD. BRASS CAP QUARTER CORNER SECTION 31
FD. BRASS CAP QUARTER CORNER SECTION 32
FD. BRASS CAP QUARTER CORNER SECTION 5
FD. BRASS CAP SECTION CORNER
15' WIDE WATER LINE EASEMENT (R.O.)
CENTERLINE SECTION 8
SEE DETAIL "A"
SEE DETAIL "B"
SEE DETAIL "C"
NOTE: SEE SHEET 3 FOR DETAIL OF TITLES 8, 10, 11, 13, 14, 15, 18, 19 AND 20.
LEASE AREA NO. 1
FILE 177 PAGE 22 OF SURVEYS
A.P.N. 213-00-004-010
CITY OF BOULDER CITY
NEVADA SOLAR ONE LEASE AREA
FILE 139 PAGE 80 OF SURVEYS
A.P.N. 213-00-001-001
CITY OF BOULDER CITY
EASTERLY LINE B.L.M. M-74941 50' WIDE EASEMENT
CENTERLINE B.L.M. M-74941 50' WIDE EASEMENT
WESTERLY LINE B.L.M. M-84245 50' WIDE EASEMENT
A.P.N. 213-00-001-017 CITY OF BOULDER CITY
A.P.N. 213-00-001-018 CITY OF BOULDER CITY
A.P.N. 213-00-001-019 CITY OF BOULDER CITY
A.P.N. 213-00-001-020 CITY OF BOULDER CITY
A.P.N. 213-00-001-021 CITY OF BOULDER CITY
A.P.N. 213-00-001-022 CITY OF BOULDER CITY
A.P.N. 707-00-002-017 CITY OF BOULDER CITY
A.P.N. 707-00-002-018 CITY OF BOULDER CITY
A.P.N. 707-00-002-019 CITY OF BOULDER CITY
A.P.N. 707-00-002-020 CITY OF BOULDER CITY
A.P.N. 707-00-002-021 CITY OF BOULDER CITY
A.P.N. 707-00-002-022 CITY OF BOULDER CITY
A.P.N.

A.L.T.A. MAP

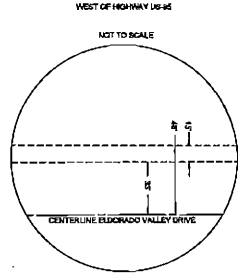
COUNTY OF CLARK —— STATE OF NEVADA
CITY OF BOULDER CITY
NEXTLIGHT RENEWABLE POWER, LLC — LEASE AREA
PORTIONS OF
THE SOUTHEAST QUARTER (SE1/4) SECTION 31, AND THE SOUTHWEST QUARTER (SW1/4) SECTION 32, T24S, R63 E, M.D.M
AND PORTIONS OF
SECTION 5, AND SECTION 8, T25S, R63E, M.D.M.



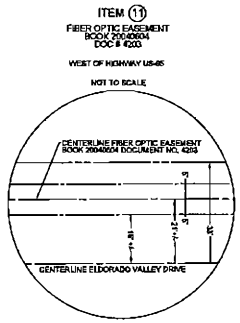
ITEM (8) (14) (15) (18) (19) (20)
ROAD
INGRESS & EGRESS
BOOK 960511
INST #001113



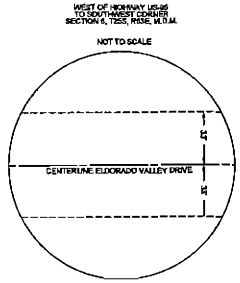
ITEM (10)
TELEPHONE
EASEMENT
BOOK 960722
INST #00703



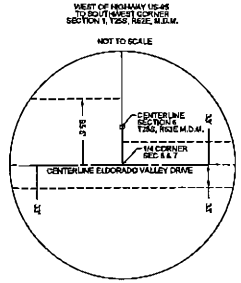
ITEM (11)
FIBER OPTIC EASEMENT
BOOK 20040604
DOC # 4203



ITEM (13)
GRANT OF EASEMENT
BOOK 20060512
INST #02760



ITEM (14)
PUBLIC UTILITY EASEMENT
BOOK 20060830
INST #02749



SHEET 3 OF 3

A.L.T.A. MAP
COUNTY OF CLARK —— STATE OF NEVADA
CITY OF BOULDER CITY
NEXTLIGHT RENEWABLE POWER, LLC — LEASE AREA
PORTIONS OF SECTION 31 AND SECTION 32, T24S, R63E, M.D.M.
AND
PORTIONS OF SECTION 5 AND SECTION 8, T25S, R63E, M.D.M.

SCALE: NO TO SCALE	FOR: NEXTLIGHT RENEWABLE POWER, LLC
DATE: JULY 2, 2009	DRAWN BY: RAA

E.G. RADIG, INC.
1577 FOOTHILL DRIVE SUITE 1
BOULDER CITY, NEVADA 89005
(702) 293-3330 FAX (702) 293-6153

DWGMPT16GSAALTA3

JOB NO. 716,038

LEASE AGREEMENT
Agreement No. 09-1260

This Lease Agreement (the "**Lease**") is made and entered into by and between the CITY OF BOULDER CITY, a Nevada municipal corporation ("**Landlord**"), and Boulder City Solar, LLC, a Delaware limited liability company ("**Tenant**"), as of this 9th day of June, 2009. (hereinafter the "**Effective Date**").

W I T N E S S E T H:

1. Premises and Term.

1.1. Premises. In consideration of the obligation of Tenant to pay rent as hereinafter provided and in consideration of the other terms, provisions and covenants hereof, Landlord hereby demises and leases to Tenant, and Tenant hereby takes from Landlord, a leasehold interest in approximately One Thousand One Hundred Fifty (1,150) acres of land, located in the Energy Zone of the City of Boulder City, State of Nevada, all as is more particularly described on Exhibit "A" attached hereto and made a part hereof (the "**Land**"), together with any buildings, structures and other improvements to be erected thereon, and subject to the Easement (defined below in Section 1.2), as well as all rights, privileges, easements and appurtenances belonging or in any way pertaining to the Land and not otherwise inconsistent with the terms of this Lease (all of the foregoing hereinafter collectively referred to as the "**Leased Premises**").

1.2. Easement. Landlord and Tenant hereby agree that Tenant requires an easement for ingress, egress, regress and utilities over the property of Landlord adjacent to and surrounding the Land for the construction and maintenance of the Improvements (defined below in Section 2.1) on the Land, for the installation, construction and maintenance of underground and above ground gas, electricity, water, telephone, and other utility lines in connection with Tenant's use of the Land, and for access to the Land from a public road (the "**Easement**"). The term of the Easement shall commence upon execution of this Lease and shall continue until the last to occur of (i) expiration of the Lease Term (as defined in Section 1.3 below), or (ii) removal by Tenant of all Tenant's Personal Property as defined in Section 2.10, after expiration of this Lease as required herein. The exact location, configuration and specific terms of the Easement shall be agreed upon by the parties. At Tenant's sole cost and expense, the Easement shall be set forth in a separate Easement Agreement which Landlord and Tenant agree to execute and which shall be recorded in the Official Records, Clark County, Nevada. Landlord shall grant easements for the transmission line as set forth in Exhibit D (the "Transmission Line Easement") or in an alternative route that provides a suitable corridor in which a transmission line can be constructed and operated pursuant to prudent electrical engineering standards, is not substantially more costly to Tenant, and is otherwise reasonably acceptable to Tenant, gas lines, telephone service and other utilities, and directly to a natural gas company, telephone company, or other utility company, as may be appropriate for providing such services to the Leased Premises.

Landlord and Tenant acknowledge that the Easement may be subject to the rights of third parties. Landlord agrees to cooperate with Tenant in obtaining any necessary rights from third parties including the Bureau of Land Management for utility uses located within a federal utility corridor. Landlord agrees to reasonably cooperate with Tenant to obtain the consents, easement documents, joint use rights, crossing rights or licenses from such third parties as may be deemed

necessary by Tenant. Notwithstanding Landlord's obligation to cooperate with Tenant on obtaining any necessary third party rights, consents, easement documents, joint use rights crossing rights or licenses, it shall be the sole responsibility and obligation of Tenant to obtain all of the foregoing, if necessary. Notwithstanding the foregoing, obtaining the Transmission Line Easement set forth in Exhibit D shall be the responsibility of Landlord. Landlord shall obtain the Transmission Line Easement from all necessary parties within one hundred fifty (150) days of the Effective Date of this Lease unless otherwise agreed by Tenant.

1.3. Term. The effective date of this Lease shall be the date of execution (the "Effective Date").

1.3.1. Term Definitions.

1.3.1.1. Pre-Construction Period. Pre-Construction Period shall mean the period from the Effective Date until July 1, 2011.

1.3.1.2. Rental Period. The Rental Period shall begin July 1, 2011 until the fortieth (40^{th}) anniversary of the commencement of the Rental Period.

1.3.1.3. Construction Start-Up. Construction Start-Up shall mean the effective date of the full notice to proceed issued by Tenant to the Engineering procurement and Construction Contractor (the "EPC Contractor") for the first phase of the Photovoltaic Electrical Energy Generation Facility (the "Facility") as will be described in greater detail in Tenant's Plans hereinafter defined.

1.3.1.4. Construction Period. The Construction Period shall commence from Construction Start-Up and expire on the Commercial Operation Date.

1.3.1.5. Commercial Operation Date. Commercial Operation Date shall mean the effective date of the final commercial operation certificate issued by Tenant to the EPC contractor for all phases of the Facility.

1.3.1.6. Commercial Operation Period. Commercial Operation Period shall mean the period from Commercial Operation Date through the term of the lease and all options periods that are exercised.

1.3.1.7. Lease Term. The Lease shall be effective on the Effective Date, and shall continue, unless sooner terminated pursuant to the provisions of this Lease, through the Pre-Construction Period and for forty (40) years after July 1, 2011 subject to any renewals as provided below (the "Lease Term").

1.4. Option Periods.

1.4.1. First Renewal Option. Provided an Event of Default, as defined in Section 23.1, does not exist as of the date of exercise of Tenant's First Renewal Option (as defined below) under this Section 1.4 or as of the date upon which the First Renewal Term (as defined below) shall commence, Tenant shall have the option ("**First Renewal Option**"), in its sole discretion, to extend and renew the Lease Term for an additional period of **ten (10)** years (the " **First**

Renewal Term"). The First Renewal Option must be exercised by Tenant's written notice to Landlord, given at least one hundred eighty (180) days prior to the fortieth (40^{th}) anniversary of the July 1, 2011. If Tenant exercises the First Renewal Option, the Rent, as defined in Section 3.2, payable by Tenant during the First Renewal Term shall be adjusted in accordance with Section 3.3 of this Lease. Other than the Rent recalculation, the First Renewal Term will be on the same terms and conditions as this Lease Term.

1.4.2. Second Renewal Option. Provided an Event of Default, as defined in Section 23.1, does not exist as of the date of exercise of Tenant's Second Renewal Option (as defined below) under this Section 1.4 or as of the date upon which the Renewal Term (as defined below) shall commence, Tenant shall have the option ("**Second Renewal Option**"), in its sole discretion, to extend and renew the Lease Term for an additional period of **ten (10)** years (the " **Second Renewal Term**"). The Second Renewal Option must be exercised by Tenant's written notice to Landlord, given at least one hundred eighty (180) days prior to the tenth (10^{th}) anniversary of the First Renewal Option Effective Date. If Tenant exercises the Second Renewal Option, the Rent, as defined in Section 3.2, payable by Tenant during the Second Renewal Term shall be adjusted in accordance with Section 3.3 of this Lease. Other than the Rent recalculation, the Second Renewal Term will be on the same terms and conditions as this Lease Term.

The Renewal Options granted to Tenant in this Section 1 are not personal to Tenant and may, if Tenant so consents, be exercised by any assignee of this Lease or by Tenant, or , or on behalf of, any sublessee.

1.5. No Representations. Landlord makes no representations or warranties concerning either the Leased Premises or any matters with respect thereto, except as expressly stated herein. Except for such representations as are expressly memorialized in this Lease, Tenant is entering into this Lease based on its own investigation and analysis of the Leased Premises and Tenant's experience in this type of development project.

2. Construction.

2.1. Improvements; Approval of Plans. Landlord shall have the right and the opportunity to review all tentative and final site renderings for the Facility and related facilities which Tenant intends to construct on the Land (collectively, the "**Improvements**"). Drawings of the site location are attached to this Lease as Exhibit "B" and are incorporated herein by this reference.

Prior to the submittal of construction documents to the City Building Inspection Department for approval, the Tenant shall deliver to Landlord, for Landlord's City Manager's reasonable approval, the following conceptual design documents:

(i) elevations;
(ii) color charts;
(iii) landscaping plans;
(iv) site plans, including plans for grading, utilities, access, parking and fencing; and
(v) project description

(collectively, "**Tenant's Plans**"). Landlord shall use its best efforts to complete its review of Tenant's Plans on an expedited basis (provided that Tenant reimburses Landlord for costs incurred by Landlord to retain a dedicated independent inspector not exceeding thirty-five thousand dollars ($35,000.00)) but no later than twenty-one (21) days after Tenant's delivery of such plans. In the event Landlord's City Manager fails to disapprove of such plans in writing stating its reasons for disapproval within twenty-eight (28) days of receipt of the Tenant's Plans, Landlord's City Manager shall be deemed to have approved Tenant's Plans. The foregoing periods shall be extended on a day-for-day basis for each day Tenant conducts its review of any reasonably-submitted Landlord Requests For Information ("RFIs") and preparation of a response to such RFIs. Notwithstanding the foregoing provisions of this Section 2.1, if Landlord shall act unreasonably or in bad faith in disapproving any of Tenant's Plans, then Tenant may elect to terminate this Lease, in which event Landlord shall refund to Tenant not later than ninety (90) days following Tenant's notice of intent to terminate, any amounts paid by Tenant pursuant to Section 3.1 prior to such termination. If Landlord has either disapproved Tenant's Plans, or any proposed modification thereto, and if Tenant claims that Landlord acted unreasonably in doing so, then Tenant may also pursue such remedies as are available under Section 25 of this Lease.

Within one hundred eighty (180) days after completion of any Improvements or modifications thereto, Tenant shall deliver a complete set of as-built plans pertaining thereto to Landlord and in both paper and digital vector coordinate format or other format reasonably acceptable to both parties.

2.1.1. Improvements; Phase-In. The precise scope and extent of the Improvements to be made by Tenant are presently unknown. Based upon the foregoing, Tenant is afforded the right to phase-in the Improvements to the Leased Premises, at such times and to such extent as Tenant, in its sole and absolute discretion, shall determine to be developmentally and financially viable.

2.2. Landlord's Improvement Work. Landlord shall have no obligation whatsoever to improve or alter the Land. Furthermore, Landlord shall not have any obligation to improve or alter an area that will be subject to any easement agreement or where the Leased Premises may ultimately connect to any public roadway.

2.3. General Contractor. Selection of a general contractor for all Improvements shall be made by Tenant. Such general contractor shall be licensed in Nevada. All engineering performed for Tenant shall conform to the applicable laws of the State of Nevada. All engineering shall be approved by professional engineers licensed in the State of Nevada. Tenant shall make commercially reasonable efforts to hire local labor and materials subject to all applicable laws.

2.4. Commencement of Tenant's Construction. Tenant shall obtain all required preconstruction permits and commence construction of the Improvements in accordance with applicable laws. Tenant shall proceed with such construction substantially in accordance with Tenant's Plans, with reasonable diligence and in a good and workmanlike manner. In the event that Tenant abandons this project after the commencement of construction but before substantial completion, then Tenant shall, at its own expense and to the extent reasonably possible, return the Land to its original grade and appearance.

2.5. Liability. Tenant covenants and agrees that the Improvements shall be constructed, operated, repaired and maintained, during the Lease Term, without cost or expense to Landlord and in accordance with the requirements of all laws, ordinances, codes, orders, rules and regulations of all governmental authorities having jurisdiction over the Leased Premises and Easements in a good and workmanlike manner. Tenant agrees to defend, indemnify and hold Landlord, its successors, assigns, agents, employees and attorneys harmless from and against any and all cost, liability, expense, damage or injury resulting from or arising in connection with the construction, operation, repair and maintenance of the Improvements during the Lease Term, including any Renewal Terms excluding any cost, liability, expense, damage or injury resulting from or arising in connection with Landlord's negligence or willful misconduct.

2.6. Insurance. Prior to commencing any construction on the Leased Premises, Tenant shall obtain, or cause its contractors to obtain on behalf of Tenant, its contractors and agents and without cost to Landlord, Builder's Risk Insurance covering such project and improvements to the full extent of the insurable value thereof during the Construction Period. Tenant shall also cause its contractor to obtain or cause to be obtained Workers' Compensation Insurance covering all persons employed in connection with any demolition or construction and with respect to whom death or bodily injury claims could be asserted against Landlord, Tenant or the Leased Premises during the Construction Period. Tenant shall also obtain general liability insurance for the mutual benefit of Landlord, Tenant and the Leased Premises. All of the aforementioned policies shall be in the form and shall contain the liability limits specified in Section 9 hereof. Tenant and its contractors and subcontractors shall have the right, however, to self-insure with respect to their workers' compensation insurance obligations to the extent permitted by applicable law.

2.7. No Subordination of Landlord's Fee Title. Landlord shall not be required to subordinate its fee interest in the Leased Premises or its reversionary interest in any improvements to be constructed thereon to any lien securing Tenant's construction loan or other financing.

2.8. Waiver of Security Requirement. Notwithstanding anything to the contrary contained in this Lease, Tenant shall not be subject to the requirements of NRS 108.2403 and NRS 108.2407. Within a reasonable time after the execution of this Lease and in no event later than the date before Tenant commences any work of improvement on the Leased Premises, Landlord shall record a notice of waiver of Landlord's rights provided in NRS 108.234, which waiver shall comply with NRS 108.2405 and shall specifically set forth that Landlord waives its rights under NRS 108.234. Landlord shall further comply with any additional requirements relating to such waiver, including, without limitation, the mailing requirements set forth in NRS 108.2405(2).

In consideration for such waiver, prior to the commencement of the Construction Period Tenant shall provide Landlord with a letter of credit in an amount not to exceed One Million Dollars ($1,000,000) (the "**Letter of Credit**") and a limited guaranty from Energy Capital Partners, in an amount not to exceed Ten Million Dollars ($10,000,000.00) (the "**Limited Guaranty**") pursuant to the terms of this Section. The Letter of Credit and Limited Guaranty shall be based on terms reasonably acceptable to both Landlord's City Manager (or its designee)

and Tenant, which terms shall include that: (i) the Letter of Credit and Limited Guaranty shall be limited to secure Tenant's obligations to keep the Leased Premises free from mechanics' liens related to the Improvements, (ii) Landlord's ability to draw on the Letter of Credit or collect on the Limited Guaranty shall be subject to Tenant's sixty (60) day cure period in addition to any other cure periods provided for in this Lease (iii) Tenant, at its option, may substitute the obligation to provide such Letter of Credit and the Limited Guarantee with a letter of credit in the amount of Ten Million Dollars ($10,000,000.00) from Tenant's lenders; and (iv) the Letter of Credit and Limited Guaranty (or substitute letter of credit from Tenant's lenders) shall terminate as of the Commercial Operation Date.

2.9. Liens and Fees. Tenant shall at all times indemnify, save and hold harmless Landlord and Landlord's successors, assigns, agents, employees and representatives and the Leased Premises against all liens or claims which may ripen into liens, and against all reasonable attorneys' fees and other reasonable costs and expenses, growing out of or incurred by reason of or with respect to any construction done by or for Tenant on the Leased Premises excluding liens or claims which result directly or indirectly from Landlord's negligence or willful misconduct. Should Tenant fail to fully discharge any such lien or claim, or in the alternative fail to post a bond sufficient to discharge such lien or claim within thirty (30) days after written request therefor by Landlord, then Landlord, at its option, may pay the same or any part thereof excluding such liens or claims which Tenant contests in good faith the validity or amount of such liens or claim. No bond required by the Landlord shall exceed 125% of the amount claimed unless otherwise required by law. All amounts so paid by Landlord, together with interest in a per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, from the time of payment until repayment, shall be repaid by Tenant as additional rent on the next Rent payment date after written notice and evidence of payment by Landlord shall have been delivered to Tenant.

2.10. Ownership of Improvements.

2.10.1. Moveable Trade Fixtures and Equipment. During the term of this Lease all movable trade fixtures and equipment including, without limitation, Tenant's solar panels, turbines, electric generators, boilers, and step-up transformers, and related installed equipment installed (collectively, "**Tenant's Personal Property**") shall remain and continue to be the property of Tenant and may be repaired or replaced at Tenant's sole discretion during the term of this Lease. Tenant's Personal Property may be removed at the expiration or earlier termination of this Lease, provided that Tenant repairs any damage to the Improvements caused by such removal and the removal does not in any way weaken or otherwise adversely affect in any material respect the structural integrity of the Improvements. No such repair shall be required, and the structural integrity of the Improvements may be affected or weakened, if Landlord requires that the Tenant's Personal Property are to be removed from the Land. Tenant will be permitted one hundred eighty (180) days after the expiration or earlier termination of the Lease to remove Tenant's Personal Property.

2.10.2. Fixtures. All such Improvements which are not movable trade fixtures or equipment shall remain on the Leased Premises and automatically become the property of Landlord upon the expiration or earlier termination of this Lease unless Landlord gives written notice to Tenant that any or all such Improvements are to be removed, in which case Tenant shall, to the extent reasonably practicable, remove all above grade structures; provided, however, that Tenant shall have no obligation to remove foundations, footings, and other similar below ground improvements so long as Tenant covers such improvements with soil, at Tenant's sole cost and expense, and within two hundred seventy (270) days after: (ii) the expiration or earlier termination of this Lease; or (ii) notice from Landlord given not later than one hundred eighty (180) days after the expiration or termination of this Lease, whichever is later, as to that portion of the Leased Premises upon which such Improvement to be removed are situated. If Tenant removes the Improvements as provided in this Section 2.10.2 title to such Improvements shall then be vested in Tenant and Tenant shall have no further liability to Landlord regarding any below ground improvements that are covered with soil.

2.10.3. Tenant's Failure to Remove Improvements. If Tenant fails to remove any Improvement, as required by either this Section 2.10.1 or 2.10.2, then Landlord may undertake and complete such removal, and the cost of such removal, together with interest in a per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, shall be payable on demand by Tenant to Landlord.

2.11. Land Use Matters. Landlord and Tenant acknowledge that Tenant intends to construct a Photovoltaic Electrical Energy Generation Facility upon the Land. Landlord agrees to execute or join with Tenant as necessary in the execution of any reciprocal easement agreements or lot tie agreements and in applications to obtain such subdivisions, parcel maps, use permits or use or zoning changes or variances as may be reasonably necessary for Tenant's development and use of the Leased Premises, all at Tenant's expense and without cost or expense to Landlord. Subject to the conditions set forth in the preceding sentence, Landlord shall cooperate with Tenant's efforts to obtain entitlements for the development of Tenant's Improvements, provided that such cooperation is without additional cost or expense to Landlord.

2.12. Materials Removal. It is understood and agreed by the parties hereto that development of the Land for Tenant's intended and stated purpose will require the excavation and removal of certain materials from such site. Removal of said materials from the site shall be in accordance with and subject to the express written reasonable approval of Landlord's City Manager or City Manager's designee. At no time shall removal of any materials during the construction of this project be construed as the granting to Tenant of any mineral right or rights.

2.13. Off-site Improvements. For any off-site work necessary for Tenant's use of the Leased Premises, Tenant shall abide by all applicable laws associated with the proposed off-site work. For avoidance of doubt, with the exception of off-site work on El Dorado Valley Drive as set forth in Section 2.13.2, Tenant shall not be required to perform any off-site work that is (a) not, in Tenant's sole discretion, required for the intended use of the Lease Premised by Tenant; or (b) required by currently applicable laws in order to perform the off-site work desired by Tenant.

2.13.1. Tenant, at his own cost, shall perform and complete all off-site work and improvements consisting of streets, sewers, water systems, curbs, electrical systems, gutters, sidewalks, street lighting, driveways, drainage, rights of way, accesses, signs, lawns, trees, shrubs, survey monuments, reference lines or points, etc., in accordance with currently applicable ordinances, regulations, standards and specifications, or other requirements of Boulder City, Nevada, in the particular circumstances of the development herein specified.

2.13.2. Tenant shall be obligated to share costs associated with maintenance of El Dorado Valley Drive and possible costs associated with any future dedication of El Dorado Valley Drive with other users of El Dorado Valley Drive. The allocation of such cost sharing shall be calculated based on a reasonable determination and proportionate allocation of costs associated with the respective use of El Dorado Valley Drive by adjacent landowners/lessees. Landlord shall require that all future users of El Dorado Valley Drive must agree to similar terms. Tenant may elect to postpone full roadway improvements to El Dorado Valley Drive until such time as complete roadway reconstruction occurs, from the western terminus to US 95. Under this scenario, the Tenant shall be required to enter into a Usage and Maintenance Agreement with the other parties having an interest in this roadway easement.

2.13.3. Lands shall not be cleared of vegetation, graded or the natural ground surface thereof otherwise disturbed, on any portion of land on which the final construction or development map has not been previously recorded; and provided further that any such grading work shall not be undertaken or done until a grading plan has first been submitted to and approved by the City Engineer.

2.13.4. Tenant shall notify the City Engineer of the date and hour work on any of the following items is expected to begin, notification to be no less than 24 hours in advance of the item work is anticipated to start; and if thereafter conditions develop to delay the start of work, the Tenant agrees to notify the City Engineer of the delay not less than two hours before work is scheduled to begin

- Laying of sewer, water, gas, power, telephone, and TV lines;
- Backfilling of sewer, water, gas, power, telephone and TV lines;
- Placing concrete for curb, gutter, sidewalk, valley gutters, storm drain structures, manholes, street lighting foundations and alley gutters;
- Placing of Type II gravel base course - each lift;
- Priming base course;
- Placing street lighting and burn testing
- Testing of electrical systems-high voltage testing, if required.

Should the Tenant suspend work on any item longer than overnight (except during Saturday and Sunday and legal holidays), a new notification shall be made to the City Engineer before work may begin anew on any items requiring inspection.

2.13.5. Approval of Work after Inspection.

2.13.5.1. Whenever the City Engineer or his duly authorized

representative inspects portions of work as mentioned hereinbefore and finds the work performed to be in a satisfactory condition for inclusion in the completed project, the City Engineer or his duly authorized representative shall issue a statement of inspection which shall permit the Tenant to perform the next phase of the construction.

2.13.5.2. Inspection and approval of any item of work shall not forfeit the right of the City to require the corrections of quality workmanship or materials at any time during the course of work, although previously approved by oversight.

2.13.5.3. Nothing herein shall relieve the Tenant of the responsibility for proper construction and maintenance of the work, materials and equipment required under the terms of this Lease until all work has been completed Tenant and accepted by the City of Boulder City.

2.13.6. The Tenant shall provide for adjustments necessary to all existing utilities because of the work required by this Lease, without cost to the City.

2.13.7. The Tenant shall perform and complete all such improvements in accordance with the general regulations, specifications and ordinances of the said City of Boulder City and approval by the City Manager (or its designee) and Engineer of the final construction map shall not be made until all street plans and profiles, including drainage provisions, electrical light layout, architectural arrangement of construction units and all other such plans and specifications as may be required have been submitted to, and approved by, the various City Departments concerned.

2.13.7.1. The City shall have the right to require corrections by the Tenant at any time before release of the bond (or cash deposit in lieu of bond) required herein, of any item or items contained in this agreement which do not conform to City standards, specifications or ordinances, even though the plans for the item in question may have been approved by the City Engineer.

2.13.7.2. The Tenant shall complete said off-site improvements within one (1) year of approval by the City Manager or its designee and the City Engineer and issuance of all applicable permits for said off-site improvements but in any case prior to occupancy of any such off-site structure or as required by applicable law, whichever occurs first.

2.13.7.3. In the event the Tenant fails to complete said improvements within said period, the City, at its option may proceed to complete said improvements at the expense of the Tenant or under his bond as hereinafter provided for. Prior to release of bond, the Tenant shall submit as built plans in both paper and digital vector/coordinate format to the City.

2.13.8. The One-year Warranty of Improvements, as required in accordance with the provisions of Section 11-39-8 (I) of the Boulder City Code, shall commence from the filing date of the "Notice of Completion."

2.13.9. The Tenant shall protect and take care of all work until its completion and final acceptance by the City. During move-in, construction and move-off, the Tenant shall keep the site free and clear from dangerous accumulation of rubbish and debris and shall maintain sufficient and proper barricades, lights, etc. for the protection of the public. Final acceptance of the work will not be made by the City until the area falling under this Lease and adjacent property has been cleared of all rubbish, surplus materials and equipment resulting from the contractor's operation, to the satisfaction of the City Engineer.

2.13.10. Upon completion of all the improvements within the City right-of-way required hereby, the Tenant shall furnish the City Engineer with record reproducible maps, signed by the Registered Engineer of Record certifying as true "record" conditions of work which shall accurately indicate, by lettered dimensions, the location of all manholes; the location, size and depth of all sewer mains; underground water, power, gas and other lines; with street plans and profiles for the same, including laterals and "Y's" for connection of house service lines.

2.13.11. The said Tenant shall execute a surety and performance bond or make a cash deposit in lieu of bond for the full cost of said off-site improvements in favor of the City of Boulder City, conditioned that the said Tenant will complete said off-site improvements within the prescribed period, and further conditioned that said bond or cash deposit, shall be used for the payment of the costs of completion of said off-site improvements by the City in case said Tenant fails to do so within said period, in the event that the City has exercised its option to complete said off-site improvements.

2.13.11.1. If the construction or installation of any improvements or facilities for which a performance bond is posted or deposited are not completed within one-hundred eighty (180) days after substantial completion of the buildings or structures which the same are designed to serve or if such construction is not in accordance with applicable standards and specifications as prescribed by law; then in either or any such event, the City may, at its option, within the aforesaid period, proceed to complete said improvements at the expense of the Tenant under his bond as hereinafter provided for.

2.13.11.2. Any application for release of said performance bond upon the completion of the improvements by the Tenant shall not be granted unless accompanied by a written certificate from the City Engineer stating that all requirements hereof have been satisfactorily completed in accordance with the terms of this Lease.

2.13.12. No certificates of occupancy shall be granted until such time as the off-site improvements have been completed to the satisfaction of the City Engineer, in accordance with this agreement and the performance bond (or cash security in lieu of bond) and the one year guarantee improvement bond.

3. Rent.

3.1. Pre-Construction Period Payments. Upon the Effective Date of the Lease, Tenant shall pay Landlord Two Hundred Thousand Dollars ($200,000.00). Upon July 1, 2010, Tenant shall pay Landlord Two Hundred Thousand Dollars ($200,000.00). In the event that Tenant elects to terminate the Lease on or before July 1, 2011, Tenant shall pay Landlord One Million

Eight Hundred Thousand Dollars ($1,800,000.00) (collectively, the "Pre-Construction Period Payments"). For avoidance of doubt, if Tenant elects to terminate the Lease prior to July 1, 2010, Tenant shall only be liable to pay One Million Eight Hundred Thousand Dollars ($1,800,000.00) as well as the original Two Hundred Thousand Dollars ($200,000.00) due on the Effective Date and not the Two Hundred Thousand Dollars ($200,000.00) that would be due on July 1, 2010.

The parties agree that it would be extremely difficult to precisely determine the amount of actual damages that would be suffered by Landlord due to a termination by Tenant of the Lease on or before July 1, 2011, but that the termination payment in the amount of One Million Eight Hundred Thousand Dollars ($1,800,000.00) shall constitute liquidated damages. The parties agree that such liquidated damages are a fair and reasonable pre-estimate of the amount of actual damages that would be suffered by the Landlord in the event of termination of the Lease by Tenant on or before July 1, 2011 and that these liquidated damages do not constitute a penalty.

3.2. Rental Period. The Rental Period shall commence upon July 1, 2011 and continuing until the fortieth (40th) anniversary of July 1, 2011. The Annual Base Rent shall be Two Thousand Two Hundred Dollars ($2,200.00) per acre (the "Rent"). Payments shall be made quarterly. The first quarterly payment shall be made in full on July 1, 2011. Subsequent payments shall be made on or before the first (1st) day of each month for the respective quarter during the Construction Rental Period.

3.2.1. The Annual Base Rent from July 1, 2011 until June 30, 2012 shall be fifty percent (50%) of the Annual Rent.

3.2.2. The Annual Base Rent from July 1, 2012 until the end of the Lease term July 1, 2051 shall be one hundred percent (100%) of the Annual Rent.

3.3. Increases in Rent. Beginning on the first day of the calendar month in which the First Renewal Option, or Second Renewal Option, as applicable, begins (hereinafter, an "**Adjustment Date**"), the Rent shall be increased by an amount equal to the product of the Rent payable during the immediately preceding year multiplied by the Cumulative Cost of Living Factor (as hereinafter defined). The "**Cumulative Cost of Living Factor**" for the Adjustment Date upon any Renewal Terms, shall be a fraction whose numerator is the index figure stated as the Consumer Price Index for All Urban Consumers (CPI-U; U.S. City Average; All Items 1982-84= 100) published by the Bureau of Statistics of the United States Department of Labor (the "**Index**") for the month in which the Adjustment Date occurs (or the most recent available Index if the Index for the month in which the Adjustment Date occurs is not available) and whose denominator is the Index in effect on the Commercial Operation Date, in the case of the first adjustment hereunder, or the Index used for the immediately First Renewal Option Adjustment Date, in the case of the adjustment after the First Renewal Option adjustment hereunder. If the Index is discontinued, the Cost of Living Factor shall be based on comparable statistics on changes in the purchasing power of the consumer dollar for the applicable periods, as published by a responsible financial periodical report of a recognized governmental or private authority then generally recognized for such purposes, all as selected by Landlord.

3.4. Place of Payment. All payments of Rent and other sums due from Tenant to Landlord pursuant to this Lease (sometimes collectively referred to herein as "**rent**") shall be

made to Landlord as the same shall become due, in lawful money of the United States of America at the address specified in Section 22 of this Lease, or to such other party or at such other address as hereinafter may be designated by Landlord by written notice delivered to Tenant at least ten (10) days prior to the next ensuing monthly rental payment date.

3.5. Interest on Tenant's Obligations; Late Charges.

3.5.1. Interest. Any amount due from Tenant to Landlord which is not paid within ten (10) days after the date due shall bear interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, from the date such payment is due until paid, and the payment of such interest shall not excuse or cure any default by Tenant under this Lease.

3.5.2. Late Charge. In the event Tenant is more than fifteen (15) days late in paying any installment of rent due under this Lease, Tenant shall pay Landlord a late charge equal to one half of one percent (½ %) of the delinquent installment of rent. The parties agree that the amount of such late charge represents a reasonable estimate of the cost and expense that would be incurred by Landlord in processing each delinquent payment of rent by Tenant, and that the payment of such late charge shall not excuse or cure any default by Tenant under this Lease. The parties further agree that the payment of either late charges or interest, as provided for in this Section 3.7, are distinct and separate from one another in that the payment of interest is to compensate Landlord for the use of Landlord' s money by Tenant, while the payment of a late charge is to compensate Landlord for the additional administrative expense incurred by Landlord in handling and processing delinquent payments.

4. Holding Over by Tenant. Should Tenant or any assignee, subTenant or licensee of Tenant fail to vacate the Leased Premises or any part thereof after the expiration or earlier termination of the Lease Term, unless otherwise agreed in writing, such failure to vacate shall constitute and be construed as a tenancy from month-to-month upon the same terms and conditions as set forth in this Lease, but at a monthly rental rate in an amount equal to one sixth (1/6) of the yearly Base Rent payable immediately preceding the expiration of the Lease Term. Nothing contained in this Section 4 shall be construed as a consent by Landlord to any holding over by Tenant, and Landlord expressly reserves the right to require Tenant to surrender possession of the Leased Premises upon the expiration of the Lease Term or upon the earlier termination hereof and to assert any remedy in law or equity to evict Tenant and/or collect damages in connection with such holding over. Notwithstanding the foregoing, Tenant shall have two hundred seventy (270) days to remove Tenant's Personal Property and the remaining Improvements which Landlord wants removed from the Leased Premises as set forth in Section 2.10, such 270-day period shall not be deemed a hold over period. Rent payable pursuant to Section 3.2 will be prorated to through the date that Tenant shall actually vacates the Leased Premises, complete necessary demolition (as applicable) and reasonably restore the Leased Premises per Section 2.10, whichever shall be last to occur..

5. Uses.

5.1. Permitted Use. Tenant shall have the right to develop the Leased Premises for a Photovoltaic Electrical Energy Generation Facility and related uses consistent with the terms and conditions of this Lease.

5.1.1. Other License Requirements. If any governmental license or permit is required for the lawful conduct of any business activity to be carried on by Tenant on the Leased Premises, and if the failure to obtain such license or permit would materially adversely affect Landlord, then Tenant shall procure and maintain such license or permit for so long as the same is required, make such license or permit available for inspection by Landlord and comply at all times with all terms and conditions thereof.

5.2. Prohibited Uses. Tenant covenants and agrees that it will not use or suffer or permit any person or persons to use the Leased Premises or any part thereof for any use or purpose in violation of the laws of the United States of America or the laws, ordinances, regulations or requirements of the State of Nevada, Clark County, City of Boulder City or other lawful authorities having jurisdiction. Nothing contained herein shall be deemed to prevent Tenant from making a use of the Leased Premises claimed by any governmental authority having jurisdiction to be within the scope of the preceding sentence provided that: (i) Tenant is contesting the application or interpretation of such laws or the determinations of any such lawful authority; (ii) Landlord is given written notice thereof prior to the commencement of any such contest; (iii) such contest is prosecuted by Tenant with all reasonable diligence; and (iv) Tenant provides Landlord with such assurances or security as Landlord may reasonably require to ensure that neither the Leased Premises nor Landlord's rights under this Lease may be adversely affected by such contest.

Tenant shall promptly, and upon demand by Landlord, reimburse Landlord for any additional premium charged for any insurance policy maintained by Landlord, resulting from Tenant's failure to comply with the provisions of this Section 5 and for any other costs reasonably incurred by Landlord in enforcing the provisions of this Section.

5.3. Project Standards. In constructing the Improvements under Section 2, Tenant shall utilize state-of-the-art dust control products and equipment designed to keep the generation of dust to a minimum. Tenant shall also operate the Photovoltaic Electrical Energy Generation Facility in conformance with all applicable standards of the Clark County Health District, Air Pollution Control Division.

6. Representations and Covenants of Landlord. As of the Effective Date, Landlord represents, warrants and covenants to Tenant as follows:

6.1. Title. That Landlord has good and marketable fee simple title to the Land and the Leased Premises, subject only to those exceptions as are set forth in Exhibit "C" and such other matters as would be disclosed by an ALTA survey of the Land and Leased Premises, possesses full power and authority to deal therewith in all respects, and that no other party has any right or option thereto or in connection therewith.

6.2. Condemnation. That there are no pending, or to the knowledge of Landlord, threatened, condemnation proceedings or actions affecting the Land or the Leased Premises.

6.3. Legal Proceedings. That there are no pending, or to the knowledge of Landlord, threatened, actions or legal proceedings which could adversely affect the Leased Premises or Tenant's rights under this Lease.

6.4. Special Assessments. That there are no special assessments due or pending for sewer, sidewalk, water, paving, electrical or power improvements or for any other capital expenditures or improvements, matured or unmatured, with respect to the Leased Premises.

6.5. Binding Obligation. That this Lease and the consummation of the transactions contemplated hereby is valid and binding upon Landlord (and does not constitute a default or an event which, with notice or the passage of time or both, will constitute a default) under any contract to which Landlord is a party or by which Landlord is bound.

6.6. No Violation of Law. That Landlord has not received notice and has no knowledge of any violation of any law, regulation, ordinance, order or other requirement of any governmental authority having jurisdiction over or affecting any part of the Leased Premises.

6.7. Environmental Matters. There are no incidents of any noncompliance or violation of any local, state or federal environmental laws related to the Leased Premises, or the existence of any Hazardous Substances (as defined in Section 26.4) in amounts or concentrations that could result in remediation or other requirements on the part of any applicable governmental authority under any Environmental Laws (as defined in Section 26.4), or the existence within the Leased Premises of any underground storage tanks.

6.8. Zoning. That the Land is currently zoned Government Open Space (GO). That the operation of a Solar Electrical Energy Generation Facility is a permitted use under this zoning designation.

6.9. Authority. Neither the execution, delivery or performance of this Lease will breach any statute, law ordinance, rule or regulation of any governmental authority.

7. Utilities. Tenant shall pay all charges incurred for the use of utility services at the Leased Premises including, without limitation, gas, electricity, water and telephone. Tenant shall pay all utility connection charges and any charges associated with getting utility services extended to the Leased Premises. Notwithstanding anything to the contrary contained in either this Section 7 or elsewhere within this Lease, it is acknowledged by the parties hereto that Tenant is hereby afforded the right to provide electrical service, via Tenant supplied generators, until the Commercial Operation Date.

7.1.1. Water Limitations and Rates. The City will furnish to Tenant and Tenant agrees to purchase and take from the City, under and in accordance with these terms, a supply of water through a metered connection or connections authorized by the Public Works Department of the City to be used by Tenant in accordance with the following minimum specifications.

7.1.1.1. Continuous flow rate of 200gpm with availability of 24 hours per day/seven days a week until the Commercial Operation Date (the "Construction Period Water Flow Rate") at which time the availability shall be reduced to 67 gpm with availability of 24 hours per day/seven days a week. Prior to the Commercial Operation Date, with seven (7) days notice, Landlord may curtail the water supply to a minimum of 50 gpm for up to seven (7) days per calendar month; *provided*, however, Tenant, in any one calendar month, shall receive no less than the equivalent of the Construction Period Water Flow Rate. If the Construction Period Water Flow Rate is curtailed, the Landlord shall make available a separate water supply within Boulder City for the Tenant to truck such water to the Property; and

7.1.1.2. Minimum pressure of 25psig 24 hours a day, seven days a week; and

7.1.1.3. Quality which is equal to the quality of the potable water supplied to the residents of Boulder City, said water to be used exclusively for restroom and other consumptive uses including but not limited to panel washing and other plant maintenance activities; but not to include activities directly associated with power generation.

7.1.2. Except as otherwise provided herein, water use shall be limited to [35 acre feet] per year until the entire project becomes commercially available at which time water use shall be restricted to a maximum of 8.0 acre feet per year with the exception of water utilized for fire suppression.

7.1.3. The Tenant hereby agrees to pay to the City for the beneficial municipal use of potable water provided by the City hereunder, monthly charges for water used in accordance with the schedule of water charges for water as set forth herein below.

7.1.3.1. Connection Charges: Connection Charges shall be calculated in accordance with the provisions of the City Code of the City of Boulder City and the most recently adopted Resolution as applied to general public water rates in effect.

7.1.3.2. Water Charge/Service Charge and Construction Water Charge/Service Charge: Water Charges, Service Charges and Construction Water Charges/Service Charges shall be calculated in accordance with the provisions of the City Code of the City of Boulder City and the Resolution as applied to general public water rates in effect at the time of billing.

7.1.4 The schedule of charges provided for in this Section 7.1 shall remain in full force and effect until the City deems it necessary to raise or lower the charges for water services. The City may establish reasonable classifications of users for various purposes, including, but not limited to, rate making, provided however, that the City shall not segregate Tenant into a service class that is less favorable than other commercial and industrial users. Nothing herein shall be deemed to require a continuance of user classification charges.

7.1.5. The parties to this contract recognize that the water supply for the City is dependent upon sources that are variable in quantity or quality and beyond the reasonable control of the City. No liability shall attach to the City hereunder on account of any failure to accurately anticipate availability of water supply or because of an actual failure of water supply due to

inadequate runoff, poor quality delivery from Southern Nevada Water System or occurrences beyond the reasonable control of the City. The City agrees that water supplied by Southern Nevada Water System does meet all mandatory local, state, and federal potable water standards and the City will exercise reasonable care and foresight in furnishing water to the Tenant. So far as reasonably possible, the City agrees to maintain and devote the facilities necessary to provide water to the Tenant in accordance with the pressure, quantity, and quality standards set forth herein above.

8. Taxes, Assessments and other Governmental Impositions.

8.1. Payment. Subject to the following sentence, Tenant shall pay, within thirty (30) days after receipt of written demand from Landlord, any real estate taxes, assessments (both general and special) and other governmental impositions which are levied against the Leased Premises; provided that Tenant shall have no obligation to pay any of such taxes, assessments and impositions more than ten (10) days prior to the date the same are due to the taxing authority. Tenant's obligations under this Section 8.1 shall extend only to taxes, assessments and impositions which are properly allocable to the Lease Term; provided, however, that if the City of Boulder City transfers all or part of its rights under this Lease or the real property subject to this Lease to any third party, Tenant shall thereafter have the right to offset or deduct from any payments due Landlord hereunder all amounts paid by Tenant for real estate taxes, assessments and impositions levied against the Lease Premises which would not be due if the City of Boulder City continued to hold its rights under the Lease and the real property subject to the Lease. Any tax, assessment, imposition or other similar expense which is properly allocable to any period prior to the Commencement Date or any period after the date of termination or expiration of this Lease shall not be the obligation of Tenant.

8.2. Contest. Tenant may, if it shall so desire, contest the validity or amount of any tax or assessment against the Leased Premises, in which event Tenant may defer the payment thereof during the pendency of such contest if applicable law so permits; provided, however, that Tenant shall not allow any tax lien to be foreclosed on the Leased Premises, and, unless such tax is paid under protest, not later than ten (10) days prior to the date the same shall become delinquent, Tenant shall have: (i) deposited with a bank or trust company reasonably acceptable to Landlord, an amount sufficient to pay such contested item(s) together with the interest and penalties thereon (as reasonably estimated by Landlord) with written instructions to said bank or trust company to apply such amount to the payment of such item(s) when the mount thereof shall be finally fixed and determined (with the remainder to be paid to Tenant); or (ii) provided Landlord with other reasonably acceptable security. In the event Landlord is required by law to join in any action or proceeding taken by Tenant to contest any such taxes or assessments, Tenant shall indemnify, defend and hold Landlord and Landlord's successors, assigns, agents, employees and representatives harmless from any and all costs, fees (including, but not limited to reasonable attorneys' fees), expenses, claims, judgments, orders, liabilities, losses or damage ("Claims") arising out of such action or proceeding excluding Claims arising from Landlord's negligence or misconduct.

If, at any time, in the judgment of Landlord reasonably exercised, it shall become necessary so to do, Landlord, after written notice to Tenant, may, under protest and if so requested by Tenant, pay such monies as may be required to prevent: (i) transfer of the Leased

Premises to the Clark County Treasurer or the sale of the Leased Premises or any part thereof; or (ii) foreclosure of any lien created thereby, and any amounts so paid shall become immediately due and payable by Tenant to Landlord, together with interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, and shall constitute additional rent hereunder. At Tenant's option, sole cost and expense, and in lieu thereof, Tenant may obtain lien release bonds in amounts equal to the claims of any such liens or as otherwise required by applicable law to obtain a full and timely release of such liens.

8.3. Substitute Taxes. Notwithstanding anything herein to the contrary, if at any time during the Lease Termthere shall be levied or assessed in substitution of real estate taxes, in whole or in part, a tax, assessment or governmental imposition (other than a general gross receipts or income tax) on the rents reserved herein, and said tax, assessment or governmental imposition shall be imposed upon Landlord, then Tenant shall pay the same as hereinabove provided, but only to the extent that such new tax, assessment or governmental imposition is a substitute for real estate taxes previously imposed.

8.4. Installment Payments. Notwithstanding anything herein to the contrary, if at any time during the Lease Term any assessment (either general or special) is levied upon or assessed against the Leased Premises or any part thereof, and if such assessment is permitted to be paid in installments and Tenant elects to pay such assessment in installments, then Tenant' s obligation under this paragraph to pay such assessment shall be limited to the amount of such installments (plus applicable interest thereon charged by the taxing authority, if any) which become due during the Lease Term, including any applicable Renewal Terms.

9. Insurance.

9.1. Fire Insurance. Tenant shall maintain so called "all risk" fire and extended coverage insurance (including vandalism, malicious mischief and earthquake and flood insurance, if commercially available at reasonable cost) on the Improvements, with a limit of or in an amount not less than one hundred percent (100%) of the replacement value thereof, less the cost of excavations, foundation, footings and underground tanks, conduits, pipes, pilings and other underground items. Payments for losses shall be made to a third party escrow or construction control account reasonably and mutually acceptable to Landlord and Tenant and shall be disbursed from such account to Tenant and Tenant's contractors to pay for the restoration of the Improvements in accordance with the provisions of this Lease under Section 14.

9.2. Liability Insurance. Tenant shall also insure against property damage and public liability arising by reason of occurrences on or about the Leased Premises by maintaining a policy or policies of commercial general liability insurance, including contractual liability coverage, insuring against tort liabilities assumed under this Lease, on an "occurrence" basis, with a primary liability limit of not less than One Million Dollars ($1,000,000.00), and having a combined primary and excess coverage limit of not less than Five Million Dollars ($5,000,000).

9.3. Worker's Compensation. Tenant shall maintain (at its sole cost and expense) workers' compensation and employers' liability insurance covering all of its employees as required by the laws of the State of Nevada. Tenant shall have the right to self-insure with respect to such required coverage to the extent permitted by applicable law.

9.4. Policy Requirements. Except for workers' compensation insurance, all insurance policies required to be maintained by Tenant hereunder shall be with responsible insurance companies, authorized to do business in the State of Nevada if required by law, and, except for workers' compensation policies, shall name Landlord as an additional insured or, with respect to property insurance to be maintained pursuant to Section 9.1 above, loss payee, as its interests may appear, and shall provide for cancellation only upon thirty (30) days prior written notice to Landlord. Except for workers' compensation insurance, Tenant shall evidence all insurance coverage by delivering to Landlord, prior to taking possession of the Land, and thereafter from time to time upon request by Landlord, certificates issued by the insurance companies, if any, underwriting such risks. Except for workers' compensation insurance, Tenant shall, at the expiration of any such policy, furnish Landlord with renewals or "binders" thereof or certificates evidencing the same. Should Tenant fail to timely procure such insurance or the requisite evidence thereof, then Landlord may procure such insurance and charge the cost thereof to Tenant, which cost shall be payable by Tenant upon demand , and as additional rent, together with interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law. With respect to workers' compensation insurance, Tenant shall furnish Landlord with reasonable evidence that Tenant has complied with its obligations under this Lease.

9.5. Blanket and Self Insurance. Notwithstanding any of the provisions of Section 9 to the contrary, and only to the extent permitted by applicable law, Tenant shall be permitted to fulfill its obligations under this Section 9 pursuant to: (i) one or more blanket policies (as long as the Leased Premises are adequately insured as required by this Lease); or (ii) by self insurance (provided that Tenant shall give five (5) days' prior written notice to Landlord and obtain Landlord's City Manager's or City Manager's designee's prior written approval for such self insurance, which approval may be withheld in Landlord's sole and absolute discretion).

10. Repairs. Tenant shall maintain the Leased Premises in accordance with all applicable laws, it being understood that Landlord shall not be required to make any repairs to the Leased Premises during the Lease Term.

11. Alterations. Tenant shall have the right to make, at its sole cost and expense, additions, alterations and changes (hereinafter referred to as "**Alterations**") in or to the Improvements, provided that an Event of Default shall not then exist, and subject to the following conditions:

11.1. Permits. No Alterations shall be undertaken unless and until Tenant shall have procured and paid for, so far as the same may be required from time to time, all required permits and authorizations of City of Boulder City and other governmental authorities having

jurisdiction.

11.2. Construction. All Alterations shall be pursued promptly to completion, shall be done in a good and workmanlike manner, and shall be in compliance with all applicable permits and authorizations, building and zoning laws and all other laws, ordinances, orders, rules, regulations and requirements of all federal, state and local governments, departments, commissions, boards and officers.

11.3. Inspection. During construction of either the Improvements or any Alterations, and subject to applicable laws and to Tenant's security policies, Landlord shall have the right to go upon and inspect such Improvements and Alterations at all reasonable times and upon reasonable notice and shall have the right to post and keep posted thereon notices of non-responsibility or such other notices as Landlord may deem necessary or proper for the protection of Landlord's interest in the Leased Premises, such postings to be completed in such a manner as to not interfere with Tenant's construction or business operations.

11.4. Liens. Tenant shall indemnify, defend, satisfy and hold harmless Landlord and Landlord's heirs, successors, assigns, agents, employees and representatives from and against all claims, reasonable attorneys' fees and other costs and expenses growing out of or incurred by reason of or with respect to liens for labor or materials supplied or claimed to be supplied in connection with Alterations done by or for Tenant excluding liens or claims which result directly or indirectly from Landlord's negligence or willful misconduct or solely from Landlord's actions or Landlord's contractual obligations. Should Tenant fail to fully discharge any such lien or claim, or in the alternative fail to post a bond sufficient to discharge such lien or claim within thirty (30) days after written request therefor by Landlord, then Landlord, at its option, may pay the same or any part thereof excluding such liens or claims which Tenant contests in good faith the validity or amount of such liens or claim.. No bond required by the Landlord shall exceed 125% of the amount claimed unless otherwise required by law or other security is posted by Tenant that is acceptable to Landlord. All amounts paid by Landlord, together with interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, from the time of payment until repayment, shall be repaid by Tenant as additional rent on the next rent payment date after demand for payment by Landlord.

11.5. Insurance. Prior to making any material Alterations to any building or work of improvement, Tenant and Tenant's subcontractors and agents shall obtain Workers' Compensation. Tenant shall also obtain Builder's Risk and Liability Insurance in such amounts and form as required by Section 2.6 hereof but only Alterations that exceed an estimate of Ten Million Dollars ($10,000,000.00).

12. Equipment, Fixtures and Signs.

12.1. Equipment and Fixtures. Tenant shall have the right to erect, install, maintain and operate on the Leased Premises such equipment, trade and business fixtures, and other personal property as Tenant may deem necessary or appropriate, and such shall not be deemed to be part

of the Leased Premises, but shall remain the property of Tenant, as provided in Section 2.10 hereof.

12.2. Permitted Signs. Tenant shall be entitled to erect upon the Land and the Leased Premises such signs as may be permitted pursuant to current Boulder City ordinances governing signs. Tenant's rights under this Section 12.2 are subject to Tenant's receipt of any and all necessary governmental approvals, permits and consents.

13. Damage by Fire or Other Casualty.

13.1. Material Damage to Improvements. In the event all or any substantial portion of the Improvements shall be damaged or destroyed in whole or in part by fire or any other casualty such that the cost to repair and restore the Improvement exceeds ten percent (10%) of the replacement cost of the Improvements ("Material Damage"), then Tenant may terminate this Lease per Section 26, provided, however, that Tenant removes the undamaged Tenant's Personal Property and, as requested by Landlord, removes all above grade structures; Tenant shall have no obligation to remove foundations, footings, and other similar below ground improvements so long as Tenant covers such improvements with soil, at Tenant's sole cost and expense.

Use of any insurance proceeds shall be governed by the applicable provisions of the lenders financing documents. Notwithstanding the foregoing, in the event that Tenant or the lenders make the good faith determination that the Facilities are incapable of being rebuilt, repaired and/or restored to permit operation on a commercially feasible basis, all casualty insurance proceeds received by Tenant shall be applied by Tenant in the following order of priorities:

(i) First, demolition and/or removal of the Improvements per Section 13.1;

(ii) Second, to the payment of any Rent in arrears, if any;

(ii) Third, to Tenant and/or its lenders as required by any financing documents.

13.2. Additional Cost of Restoration. If Tenant elects to rebuild the Improvements, and if the insurance proceeds received by or for the account of Tenant shall be insufficient to pay the entire cost of such repairs and restoration, then Tenant shall supply the amount of any such deficiency and shall apply the same to the payment of the cost of such repair and restoration. Under no circumstances shall Landlord be obligated to make any payment or contribution towards the cost of any repairs or restoration.

14. Condemnation.

14.1. Termination. If all of the Leased Premises (or if less than all, but the remaining portion will not permit Tenant to operate its business on the Leased Premises as determined by Tenant , in its sole and absolute discretion) shall be acquired by the right of condemnation or eminent domain for any public or quasi-public use or purpose, or sold to a condemning authority under threat of condemnation or in lieu thereof, then the Lease Term shall cease and terminate as of the date of title vesting in such proceeding (or sale) and all rent shall be paid up only to that

date.

14.2. Partial Condemnation. In the event of a partial taking or condemnation which takes less than a substantial portion of the Leased Premises and if(where the remaining portion will permit Tenant to continue to operate its business on the Leased Premises as determined by Tenant , in its sole and absolute discretion), then Tenant, at Tenant's sole cost and expense, shall proceed with reasonable diligence to restore the Leased Premises to a condition, to the extent practicable, comparable to its condition at the time of such condemnation less the portion lost in the taking, and this Lease shall continue in full force and effect, but subject to Section 14.4 below, with a pro rata reduction of rent. The rent in such circumstances will be reduced in accordance with the following formula:

Current Rent Payable	multiplied by	Number of Square Feet Condemned / Total Square Feet Leased	=	Reduced Rental Amount

14.3. Payment of Award. In the event of any condemnation, taking or sale, as aforesaid, and whether whole or partial, Landlord shall be entitled to the entire award for the Land, provided however, that notwithstanding any term to the contrary contained in this Section 14.3, Tenant shall be entitled to the entire award for the value of the Leased Premises in the event that the City of Boulder City invokes the right of condemnation or eminent domain which results in the condemnation, taking or sale of the Leased Premises. Any award which is paid for the Improvements and which is not required to be paid to a Leasehold Mortgagee shall be allocated between and distributed to Landlord and Tenant in the ratio that the expired portion of the Lease Term bears to the unexpired portion thereof as of the date of the taking, with Landlord receiving that portion of the proceeds equal to the percentage of the Lease Term remaining. Renewal Terms that have not been exercised shall not be included in the ratio calculation. However, if the Leased Premises shall be restored by Tenant as herein provided, then Tenant shall first be entitled to recover the costs and expenses it incurred in such restoration out of any such award. Nothing contained in this Section 14.3 shall be deemed to prevent Tenant from seeking a separate award from the taking authority for the taking of Tenant's personal property and fixtures or for relocation and business interruption expenses incurred by Tenant as a result of such taking.

15. Liability and Indemnification.

15.1. Tenant Indemnity. Landlord shall not be liable to Tenant or Tenant's successors, assigns, managers, member, employees, agents, patrons or invitees, or any person whomsoever, for any injury to person or damage to property caused by or arising as a result of the negligence or misconduct of Tenant, its employees or agents, or of any other person (other than Landlord or Landlord's employees or agents) entering upon the Leased Premises under express or implied invitation of Tenant, as well as for any such damage or injury, which is caused by or which arises as a result of Tenant's breach of this Lease. Tenant agrees to indemnify, defend and hold Landlord and Landlord's successors, assigns, agents, employees and representatives harmless from any liability, loss, claim, damage, cost or expense suffered or incurred by Landlord by reason of any such damage or injury.

15.2. Notice of Indemnity. Landlord shall provide Tenant notice of any claim of liability for which Landlord may seek indemnification pursuant to Section 15.1 with reasonable promptness and Tenant shall thereupon defend such claim by counsel of its own choosing, at Tenant's expense. Landlord shall cooperate fully in all respects with Tenant in any such defense at Tenant's expense, including, without limitation, by making available to Tenant all pertinent information under the control of Landlord. If Tenant elects to defend any such claim, Landlord may, at Landlord's expense, participate in such matter with counsel of Landlord's own choosing.

15.3. Landlord Indemnity. Tenant shall not be liable to Landlord or Landlord's successors, assigns, employees, agents, patrons or invitees, or any person whomsoever, for any injury to person or damage to property caused by or arising as a result of the negligence or misconduct of Landlord, its employees or agents, or of any other person (other than Tenant or Tenant's employees or agents) entering upon the Leased Premises under express or implied invitation of Landlord, as well as for any such damage or injury which is caused by or which arises as a result of Landlord's breach of this Lease. To the fullest extent allowed under Chapter 41 of Nevada Revised Statutes, Landlord agrees to indemnify, defend and hold Tenant, its affiliates, its lenders, and the successors, assigns, agents, employees and representatives of each of the foregoing harmless from any liability, loss, claim, damage, cost or expense (including, but not limited to reasonable attorneys' fees) suffered or incurred by Tenant by reason of any such damage or injury (.

15.4. Tenant Notice of Indemnity. Tenant shall provide Landlord notice of any claim of liability for which Tenant may seek indemnification pursuant to Section 15.3 with reasonable promptness and Landlord shall defend each such claim by counsel of its own choosing, and at Landlord's expense. Tenant shall cooperate fully in all respects with Landlord in any such defense, including, without limitation, by making available to Landlord all pertinent information under the control of Tenant. If Landlord elects to defend any such claim, Tenant may, at Tenant's expense, participate in such matter with counsel of Tenant's own choosing.

15.5. Survival. The provisions of this Section 15 shall survive the termination of this Lease.

16. Right of Inspection. Subject to applicable laws and Tenant's normal security policies, Landlord, its agents and representatives, shall be entitled to enter upon and inspect the Leased Premises at any time during normal business hours and upon prior reasonable notice to Tenant (or, in the case of an emergency, at any time and with or without notice), provided only that such inspection shall not unreasonably interfere with Tenant's business. Tenant reserves the right to require that Landlord be accompanied by a representative of Tenant while on the Leased Premises. Landlord agrees to indemnify, defend and hold Tenant, its affiliates, its lenders, and the successors, assigns, agents, employees and representatives of each of the foregoing, harmless from any liability, loss, claim, damage, cost or expense (including, but not limited to reasonable attorneys' fees) suffered or incurred by Tenant by reason of inspection by Landlord, its agents or representatives under this Section 16 excepting such Claims arising from Tenant's breach of this Lease.

17. Warranty of Title and Quiet Enjoyment.

17.1. Quiet Enjoyment. Landlord represents and warrants that it is the owner in fee simple of the Land, and that it alone will have full right to lease the Leased Premises for the Lease Term set out herein. Landlord further represents and warrants that Tenant, upon paying the rent and performing its obligations hereunder, shall peaceably and quietly hold and enjoy the Leased Premises for the Lease Term without any hindrance, molestation or ejection by Landlord, its successors or assigns, or those claiming by, through, or under them or anyone claiming under paramount title to Landlord.

17.2. Encumbrances. Landlord represents and warrants that, other than with respect to the exceptions shown on Exhibit "C," it has neither granted nor created and covenants that it will not grant, create or suffer any claim, lien., encumbrance, easement, restriction or other charge or exception to title to the Leased Premises which would have any material adverse effect upon Tenant's rights or obligations under this Lease. If Landlord's interest in the Land or in this Lease is sold or conveyed upon the exercise of any remedy provided for in any mortgage loan, or otherwise by operation of law, then this Lease will not be affected in any way, and Tenant will attorn to and recognize the new owner as Tenant's Landlord under this Lease. Tenant will confirm such attornment in writing within ten (10) days after Tenant's receipt of a written request for attornment.

18. Force Majeure. The time for performance by Landlord or Tenant of any term, provision or covenant of this Lease, other than the payment of Rent due under this Lease, shall be deemed extended by time lost due to delays or hindrance of performance resulting from unusual flooding, lightning, landslide, earthquake, volcanic activity, fire, drought, explosion, epidemic, quarantine, storm, hurricane, tornado, other natural disaster or unusual or extreme adverse weather-related events; strikes, work stoppage or other labor disputes (in which case the affected Party shall have no obligation to settle the strike or labor dispute on terms it deems unreasonable); unavailability of building materials, civil riots or similar civil disturbance, war (whether formally declared or not), acts of the public enemy (including acts of terrorism), sabotage, blockade, insurrection, revolution, government rationing, expropriation or confiscation, material or labor restrictions by governmental authority, emergencies declared by the transmission provider or any other authorized successor or regional transmission organization or any state or federal regulator or legislature requiring a forced curtailment of the project or making it impossible for the transmission provider to transmit energy, including energy to be delivered by Tenant, and any other cause not within the reasonable control of Landlord or Tenant, as the case may be, to the extent such delays are not attributable to the fault or negligence of the party claiming relief (an "Event of Force Majeure"). If delays as a result of an Event of Force Majeure, in the aggregate, exceed One Hundred Eighty (180) days, then the Tenant may terminate its obligations under this Lease Agreement per Section 26.

19. No Brokers. Tenant warrants that it has not had any contact or dealings with any person or real estate broker which would give rise to the payment of any finders' fee or brokerage commission by Landlord in connection with this Lease, and Tenant shall indemnify, hold harmless and defend Landlord from and against any liability with respect to any such finder's fee or brokerage commission. Landlord warrants that it has not had any contact with any person or real estate broker which would give rise to the payment of any finders' fee or brokerage commission by Tenant in connection with this Lease, and Landlord shall indemnify, hold harmless and defend Tenant from and against any liability with respect to any such finders' fee or

brokerage commission.

20. Landlord-Tenant Relationship. It is understood and agreed that Landlord shall in no event be construed or held to be a partner, joint venturer or associate of Tenant in the conduct of Tenant's business, nor shall Landlord be liable for any debts incurred by Tenant in Tenant's business. It is understood and agreed that the relationship between the parties hereto is and at all times shall remain that of landlord and tenant.

21. Assignment and Subletting.

21.1. Assignment and Subletting. Except as permitted herein, Tenant shall not assign this Lease, in whole or in part, or sublet the whole or any part of the Leased Premises without the prior written consent of Landlord's City Manager or City Manager's designee which shall not be unreasonably withheld, conditioned or delayed. Landlord's City Manager or City Manager's designee shall consent to an assignment of this Lease if: (i) no Event of Default (hereinafter defined) has occurred and is continuing at the time of the request for consent to the assignment; (ii) the use to be made of the Leased Premises by the assignee or subtenant shall be permitted by Article 5; (iii) the assignee is solvent and financially able to meet the projected costs of the obligations to be assumed for the unexpired portion of the Lease Term as they come due; (iv) the assignee assumes in writing the performance of all of the terms, provisions and covenants of this Lease on the part of Tenant to be kept and performed; and (v) Tenant delivers to Landlord within fifteen (15) days (or as soon thereafter as is reasonably practicable) after the assignment an executed duplicate of such agreement, together with a duly executed assumption agreement (the conditions set forth in this Section 21.1(i) through (v), the "**Assignment Conditions**"). Except where an assignment pursuant to this Section 21.1 satisfies the Assignment Conditions at the time of such assignment, then, unless Landlord's City Manager or City Manager's designee otherwise consents thereto, such assignment shall not be deemed to constitute a novation or in any way release the applicable assignor from further performance of its obligations under this Lease, and such assignor shall continue to be liable for all obligations of the "Tenant" hereunder for the balance of the Lease Term with the same force and effect as if no such assignment had been made. For purposes of clarity, where an assignment to this Section 21.1 satisfies the Assignment Conditions, then such assignment shall constitute a novation and shall release the applicable assignor from the performance of its obligations under this Lease.

21.2. Assignment to Affiliate. Notwithstanding Section 21.1, Tenant shall have the right to assign this Lease and shall have the right to sublet a portion of the Land without Landlord's consent, to any assignee which controls or is controlled by or under common control with Tenant, any partnership in which Tenant is a general partner, any limited liability company which is controlled by Tenant, or any member in Tenant which holds not less than a twenty-five percent (25%) interest in the profits or capital of Tenant. Landlord shall not be entitled to any increase in rent as a result of the sublet of a portion of the Land to any such affiliate. Except where an assignment pursuant to this Section 21.2 satisfies the Assignment Conditions, at the time of such assignment, then, except as set forth below, unless Landlord otherwise consents thereto, such assignment shall not be deemed to constitute a novation or in any way release the applicable assignor from further performance of its obligations under this Lease, and such assignor shall continue to be liable for all obligations of the "Tenant" hereunder for the balance of the Lease Term with the same force and effect as if no such assignment had been made.

21.3. Encumbrance or Assignment as Security.

21.3.1. Definitions.

21.3.1.1. The term "**Leasehold Mortgage**" as used in this Lease shall mean a first mortgage, a first deed of trust, a sale-leaseback (wherein the leaseback is prior to all other security interests in Tenant's leasehold estate) or other security instrument or device by which Tenant's leasehold estate is mortgaged, conveyed, assigned, or otherwise transferred in whole or in part, to secure a debt or other obligation.

21.3.1.2. The term "**Leasehold Mortgagee**" as used in this Lease shall refer to any party which is not affiliated with Tenant and which is the holder of a Leasehold Mortgage (which in the case of a deed of trust is the beneficiary thereof and in the case of a sale-leaseback is the lessor) in respect to which the notice provided for by Section 21.3.3 has been given and received and as to which the provisions of this Section 21.3 are applicable.

21.3.2. Tenant' s Right to Mortgage its Leasehold Interest. Notwithstanding any other provision contained in this Lease, Tenant shall have the right to encumber or assign its interest in this Lease or assign its interest in any sublease hereunder by mortgage or deed of trust (hereinafter, collectively, "**Mortgage**") (or by foreclosure or assignment in lieu of foreclosure under such Mortgage) to any institutional lender or other lender as mortgagee and if such Mortgage is a deed of trust, foreclosure may be had thereunder by the exercise of a power of sale in accordance with the provisions of Chapter 107 of the Nevada Revised Statutes. There may be more than one Mortgage on Tenant's interest in the Improvements and this Lease except that there may be only one Mortgage at any given time constituting a first lien thereon (other than as provided in the following sentence) and only one Leasehold Mortgagee at any given time (which Leasehold Mortgagee may consist of more than one person or entity so long as such multiple persons or entities act through one collateral agent). Notwithstanding the foregoing, beneficiaries of two (2) separate Mortgages may act collectively as a Leasehold Mortgagee, so long as (i) such beneficiaries act through one (1) collateral agent; and (ii) such Mortgages are, by virtue of an intercreditor or similar agreement between such beneficiaries (a copy of which shall be provided to Landlord before it shall be effective as to Landlord), of equal first priority. All obligations imposed hereunder on any Mortgage or Mortgagee shall bind all such Mortgages and Mortgagees but except for a Mortgage constituting a first lien on Tenant's interest in the Improvements and this Lease and otherwise complying with the requirements contained herein for a Leasehold Mortgage, no Mortgage, or any Mortgagee thereunder, shall be entitled to the benefits of any provision of this Lease except as set forth in this Section 21.3.2.

21.3.3. Notice to Landlord. Upon execution and recordation of a Leasehold Mortgage (or any amendment, supplement or modification thereto) Tenant shall give written notice to Landlord of the name and mailing address of the Leasehold Mortgagee (which shall be deemed such Leasehold Mortgagee's address hereunder until changed by notice to Landlord and Tenant as provided in Article 22)

21.3.4. Cancellation, Surrender and Modification. No cancellation, surrender or modification of this Lease shall be effective as to any Leasehold Mortgagee unless consented to

in writing by such Leasehold Mortgagee. Without limiting the generality of the foregoing, no purported acceptance by Tenant of any rejection of this lease by Landlord or any trustee in bankruptcy for Landlord as terminating this lease shall be effective as to any leasehold Mortgagee unless consented to in writing by such Leasehold Mortgagee, and no purported rejection of this Lease by Tenant or by a trustee in bankruptcy for Tenant shall be effective as to any Leasehold Mortgagee unless consented to in writing by such Leasehold Mortgagee.

21.3.5. Notice of Default and Right to Cure. Landlord, upon providing Tenant any notice of: (i) default under this Lease, (ii) a termination of this Lease, or (iii) a matter on which Landlord may predicate or claim a default, shall at the same time provide a copy of such notice to any Leasehold Mortgagee. No such notice by Landlord to Tenant shall be deemed to have been duly given unless and until a copy thereof has been so provided to any Leasehold Mortgagee. From and after such notice has been given to a Leasehold Mortgagee, such Leasehold Mortgagee shall have the same period, after the giving of such notice, for remedying any default or acts or omissions which are the subject matter of such notice or causing the same to be remedied, as is given Tenant after the giving of such notice to Tenant, plus in each instance, the additional periods of time specified in Sections 21.3.6 and 21.3.7, to remedy, commence remedying or cause to be remedied the defaults or acts or omissions which are the subject matter of such notice specified in any such notice. Landlord shall accept such performance by or at the instigation of such Leasehold Mortgagee as if the same had been done by Tenant. Tenant authorizes each Leasehold Mortgagee to take any such action at such Leasehold Mortgagee's option and does hereby authorize entry upon the Leased Premises by the Leasehold Mortgagee for such purpose.

21.3.6. Termination for Tenant Default. Anything contained in this Lease to the contrary notwithstanding, if any default shall occur which entitles Landlord to terminate this Lease, Landlord shall have no right to terminate this Lease unless, following the expiration of the period of time given Tenant to cure such default or the act or omission which gave rise to such default, Landlord shall notify any Leasehold Mortgagee of Landlord's intent to so terminate at least thirty (30) days in advance of the proposed effective date of such termination, if such default is capable of being cured by the payment of money, and at least sixty (60) days in advance of the proposed effective date of such termination if such default is not capable of being cured by the payment of money. The provisions of Section 21.3.7 below shall apply if, during such thirty (30) or sixty (60) day cure period, any Leasehold Mortgagee shall:

(a) notify Landlord of such Leasehold Mortgagee's desire to avoid any termination of this Lease by Landlord; and

(b) pay or cause to be paid all rent and other payments then due and in arrears as specified in the notice to such Leasehold Mortgagee and which may become due during such thirty (30) or forty-five (45) day cure period, provided, however, that such payment shall not be deemed a waiver of any other default; and

(c) comply, or in good faith and with reasonable diligence commence to comply, with all nonmonetary requirements of this Lease then in default and reasonably susceptible of being complied with by such Leasehold Mortgagee (provided, however, that such Leasehold Mortgagee shall not be required during such period to cure or commence to cure any

default consisting of Tenant's failure to satisfy and discharge any lien, charge or encumbrance against Tenant's interest in this Lease or the Leased Premises junior in priority to the lien of the Leasehold Mortgage held by such Leasehold Mortgagee, so long as such lien, charge or encumbrance does not also encumber or threaten Landlord's interest in the Land or the Leased Premises).

21.3.7. Procedure of Default.

21.3.7.1. If Landlord shall elect to terminate this Lease by reason of any default of Tenant that is not cured within any applicable cure period, and if a Leasehold Mortgagee shall have proceeded in the manner provided for by Section 21.3.6, the specified date for the termination of this Lease as fixed by Landlord in its termination notice shall be extended for a period of not more than twelve (12) months provided that such Leasehold Mortgagee shall, during such twelve (12) month period:

(a) Pay or cause to be paid the rent, additional rent and other monetary obligations of Tenant under this Lease as the same become due (subject to all applicable notice and cure periods), and continue its good faith efforts to perform all of Tenant's other obligations under this Lease, excepting (A) obligations of Tenant to satisfy or otherwise discharge any lien, charge or encumbrance against Tenant's interest in this Lease or the Leased Premises junior in priority to the lien of the Leasehold Mortgage held by such Leasehold Mortgagee, so long as such lien, charge or encumbrance does not also encumber or threaten Landlord's interest in the Land or the Leased Premises, and (B) past nonmonetary obligations then in default and not reasonably susceptible of being cured by such Leasehold Mortgagee; and

(b) If not enjoined or stayed, take steps to acquire or sell Tenant's interest in this Lease by foreclosure of the Leasehold Mortgage or other appropriate means and prosecute the same to completion with due diligence.

21.3.7.2. If at the end of such twelve (12) month period such Leasehold Mortgagee is complying with Section 21.3.7.1, this Lease shall not then terminate, and the time for completion by such Leasehold Mortgagee of its proceedings shall continue so long as such Leasehold Mortgagee is enjoined or stayed and thereafter for so long as such Leasehold Mortgagee proceeds to complete steps to acquire or sell Tenant's interest in this Lease by foreclosure of the Leasehold Mortgage or by other appropriate means with reasonable diligence and continuity. Nothing in this Section 21.3.7.2, however, shall be construed to extend this Lease beyond the Lease Term, or to require a Leasehold Mortgagee to continue such foreclosure proceedings after the subject Tenant default has been cured. If the default shall be cured and the Leasehold Mortgagee shall discontinue such foreclosure proceedings, this Lease shall continue in full force and effect as if Tenant had not defaulted under this Lease.

21.3.7.3. If a Leasehold Mortgagee is complying with Section 21.3.7.1, upon the acquisition of Tenant' s leasehold estate herein by such Leasehold Mortgagee or its designee or any other purchaser at a foreclosure sale or otherwise, and upon the discharge of any lien, charge or encumbrance against the Tenant's interest in this Lease or the Leased Premises which is junior in priority to the lien of the Leasehold Mortgage held by such Leasehold Mortgagee and which the Tenant is obligated to satisfy and discharge by reason of the terms of

this Lease, this Lease shall continue in full force and effect as if Tenant had not defaulted under this Lease.

21.3.7.4. The making of a Leasehold Mortgage shall not be deemed to constitute an assignment or transfer of this Lease or of the leasehold estate hereby created, nor shall any Leasehold Mortgagee, as such, be deemed to be an assignee or transferee of this Lease or of the leasehold estate hereby created so as to require such Leasehold Mortgagee, as such, to assume the performance of any of the terms, covenants or conditions on the part of Tenant to be performed hereunder, but the purchaser at any sale of this Lease and of the leasehold estate hereby created in any proceedings for the foreclosure of any Leasehold Mortgage, or the assignee or transferee of this Lease and of the leasehold estate hereby created under any instrument of assignment or transfer in lieu of the foreclosure of any Leasehold Mortgage, shall be deemed to be an assignee or transferee within the meaning of this Lease, and shall be deemed to have agreed to perform all of the terms, covenants and conditions on the part of Tenant to be performed hereunder from and after the date of such purchase and assignment.

21.3.7.5. Any Leasehold Mortgagee or other acquirer of the leasehold estate of Tenant pursuant to foreclosure, assignment in lieu of foreclosure or other proceedings may, upon acquiring Tenant's leasehold estate, without further consent of Landlord, sell and assign the leasehold estate on such terms and to such persons and entities as are acceptable to such Leasehold Mortgagee or acquirer and thereafter such Leasehold Mortgagee or acquirer shall be relieved of all obligations under this Lease, provided that such assignee is solvent and financially and legally able to perform the obligations of Tenant for the unexpired Lease Term. No other or further assignment shall be made except in accordance with the provisions of Article 21 of this Lease. Upon execution of any assignment permitted to be made to or by the Leasehold Mortgagee a fully executed copy thereof, together with a written statement of the place of recording or filing of record, if any, and a copy of the assumption agreement, if applicable, shall be delivered promptly to Landlord; and until such delivery to Landlord such assignment shall have no force or effect whatsoever on the enforcement by Landlord of any provisions of this Lease or any rights or remedies hereunder.

21.3.7.6. Notwithstanding any other provisions of this Lease, any sale of this Lease and of the leasehold estate hereby created in any proceedings for the foreclosure of any Leasehold Mortgage, or the assignment or transfer of this Lease and of the leasehold estate hereby created in lieu of the foreclosure of any Leasehold Mortgage shall be deemed to be a permitted sale, transfer or assignment of this Lease and of the leasehold estate hereby created.

21.3.7.7. Nothing in this Section 21.3 shall limit Landlord's ability to enforce this Lease by any means (including, but not limited to, an action for specific performance and/or injunction) other than termination, reentry or taking possession after expiration of the cure periods, if any, provided in Section 25.1, or alternatively, termination, reentry or taking possession after expiration of the period provided in Section 21.3.7.1 and Section 21.3.7.2.

21.3.8. New Lease. In the event of the termination of this Lease as a result of Tenant's default, Landlord shall, in addition to providing the notices of default and termination as required above, provide any Leasehold Mortgagee with written notice that this Lease has been terminated, together with a statement of all sums which would at that time be due under this Lease

but for such termination, and of all other defaults, if any, then known to Landlord. Landlord agrees to enter into a new lease ("**New Lease**") of the Leased Premises with such Leasehold Mortgagee or its designee for the remainder of the Lease Term, effective as of the date of termination, at the rent, and upon the terms, covenants and conditions (but excluding requirements which are not applicable or which have already been fulfilled) of this Lease, provided:

(a) Such Leasehold Mortgagee shall make written request upon Landlord for such New Lease within one hundred twenty (120) days after the date such Leasehold Mortgagee receives Landlord's notice of termination or actual termination, if later, of this Lease given pursuant to this Section 21.3.8.

(b) Such Leasehold Mortgagee or its designee shall pay or cause to be paid to Landlord at the time of the execution and delivery of such New Lease, any and all sums which would at the time of execution and delivery thereof be due pursuant to this Lease but for such termination and, in addition thereto, all reasonable expenses, including reasonable attorney's fees, which Landlord shall have incurred by reason of such default, termination and the preparation, execution and delivery of the New Lease, and which have not otherwise been received by Landlord from Tenant or other party in interest under Tenant. Upon the execution of such New Lease, Landlord shall allow to the tenant named therein as an offset against the sums otherwise due under this Section 21.3.8(b) or under the New Lease, an amount equal to the net income, if any, derived by Landlord from the Leased Premises during the period from the date of termination of this Lease to the date of the beginning of the lease term of such New Lease. In the event of a controversy as to the amount to be paid to Landlord pursuant to this Section 21.3.8(b), the payment obligation shall be satisfied if Landlord shall be paid the amount not in controversy, and the Leasehold Mortgagee or its designee shall agree to pay any additional sum ultimately determined to be due plus interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, and such obligation shall be adequately secured. For purposes of this Section 21.3.8(b) "**net income**" shall mean gross revenue derived by Landlord from the Leased Premises during the period from the date of termination of this Lease to the date of the beginning of the lease term of such New Lease, less all operating expenses, real and personal property taxes and debt service payments (with respect to debt incurred to own, operate, alter or manage the Improvements) incurred or paid by Landlord during such period.

(c) Such Leasehold Mortgagee or its designee shall agree to cure any of Tenant's defaults of which said Leasehold Mortgagee was notified by Landlord's notice of termination and which are reasonably susceptible of being so cured by Leasehold Mortgagee or its designee.

(d) Any New Lease made pursuant to this Section 21.3.8 shall be prior to any mortgage or other lien, charge or encumbrance on the fee of the Leased Premises and the tenant under such New Lease shall have the same right, title and interest in and to the Leased Premises and the buildings and improvements thereon as Tenant had under this Lease.

(e) The tenant under any New Lease shall, upon an assignment of such leasehold estate, be relieved and discharged from the obligations imposed on the tenant by such New Lease, provided that the assignee of such leasehold estate is solvent and financially and legally able to perform the obligations of the tenant for the unexpired term of the New Lease.

21.3.9. Leasehold Mortgagee Need Not Cure Specified Defects. Nothing herein contained shall require any Leasehold Mortgagee or its designee as a condition to its exercise of rights hereunder to cure any default of Tenant not reasonably susceptible of being cured by such Leasehold Mortgagee or its designee, including, but not limited to, the defaults referred to in Sections 24.1.3, 24.1.4 and 24.1.5, in order to comply with the provisions of this Section 21.3.

21.3.10. [Intentionally Deleted].

21.3.11. Arbitration. Landlord shall give any Leasehold Mortgagee prompt notice of any arbitration or legal proceedings between Landlord and Tenant involving obligations under this Lease. Any Leasehold Mortgagee shall have the right to intervene in any such proceedings and be made a party to such proceedings at its or Tenant's cost, and the parties hereto do hereby consent to such intervention. In the event that any Leasehold Mortgagee shall not elect to intervene or become a party to any such proceedings, Landlord shall give the Leasehold Mortgagee notice of, and a copy of, any award or decision made in any such proceedings. In the event Tenant shall fail to appoint an arbitrator after notice from Landlord, as provided in Article 26 hereof, a Leasehold Mortgagee shall have an additional period of thirty (30) days, after notice by Landlord that Tenant has failed to appoint such arbitrator, to make such appointment, and the arbitrator so appointed shall thereupon be recognized in all respects as if he had been appointed by Tenant.

21.3.12. No Merger. So long as any Leasehold Mortgage is in existence, unless any Leasehold Mortgagee shall otherwise expressly consent in writing, the fee title to the Leased Premises and the leasehold estate of Tenant therein created by this Lease shall not merge but shall remain separate and distinct, notwithstanding the acquisition of said fee title and said leasehold estate by Landlord or by Tenant or by a third party, by purchase or otherwise.

21.3.13. Future Amendments. In the event Tenant hereafter seeks to encumber its leasehold estate, Landlord agrees to amend this Lease from time to time to the extent reasonably requested by a prospective Leasehold Mortgagee, provided that such proposed amendments do not materially and adversely affect the rights of Landlord or its interest in the Leased Premises. All reasonable expenses incurred by Landlord in connection with any such amendment shall be paid by Tenant.

21.3.14. Prepaid Rent. If any Leasehold Mortgagee, its designee or other purchaser has acquired the leasehold estate of Tenant pursuant to foreclosure, conveyance in lieu of foreclosure or other proceedings, or has entered into a New Lease with Landlord in accordance with Section 21.3.8, such Leasehold Mortgagee, its designee or other purchaser shall succeed to the rights of Tenant, if any, in and to any prepaid rent paid by Tenant pursuant to this Lease. In such event, Tenant shall no longer have any rights to such prepaid rent, and Landlord shall hold such prepaid rent for and on behalf of such Leasehold Mortgagee, its designee or other purchaser.

21.3.15. Estoppel. Landlord shall, without charge, at any time and from time to time hereafter, but not more frequently than twice in any one-year period, within fifteen (15) days after written request from Tenant to do so, certify by written instrument duly executed and acknowledged to any Leasehold Mortgagee or purchaser, or proposed Leasehold Mortgagee or proposed purchaser, or any other, person or entity specified in such request: (a) as to whether this Lease has been supplemented or amended, and if so, the substance and manner of such supplement or amendment; (b) as to the validity and force and effect of this Lease, in accordance with its terms; (c) as to the existence of any default hereunder; (d) as to the existence of any offsets, counterclaims or defenses hereto on the part of Tenant; (e) as to the commencement and expiration dates of the Lease Term; (f) as to receipt of notice by Landlord of and consent by Landlord to the Leasehold Mortgage or sale, or proposed Leasehold Mortgage or proposed sale; (g) as to the right of the Leasehold Mortgagee or purchaser, or proposed Leasehold Mortgagee or proposed purchaser to exercise any and all of the rights granted by this Lease to a Leasehold Mortgagee or purchaser; and (h) as to any other matters as may be reasonably so requested. Any such certificate may be relied upon by Tenant and any other person or entity to whom the same may be exhibited or delivered, and the contents of such certificate shall be binding on the Landlord. Landlord shall also cause to be delivered to each person or entity to whom such certificate is exhibited or delivered, concurrently with such certificate, an opinion of counsel for Landlord addressed to such person or entity that this Lease was duly authorized, executed and delivered by Landlord, that this Lease is valid and binding upon and enforceable against Landlord and as to such other matters as may be reasonably requested.

21.3.16. Notices. Notices from Landlord to the Leasehold Mortgagee shall be mailed to the address furnished Landlord pursuant to Section 21.3.3, and those from the Leasehold Mortgagee to Landlord shall be mailed to the address designated pursuant to the provisions of Article 22 hereof. Such notices, demands and requests shall be given in the manner described in Article 22 and shall in all respects be governed by and shall be deemed to be effective in accordance with the provisions of that Article.

21.3.17. Erroneous Payments. No payment made to Landlord by a Leasehold Mortgagee shall constitute agreement that such payment was, in fact, due under the terms of this Lease; and a Leasehold Mortgagee having made any payment to Landlord pursuant to Landlord's wrongful, improper or mistaken notice or demand shall be entitled to the return of any such payment or portion thereof.

22. Notices and Payments.

Any notice or document required or permitted to be delivered hereunder or by law shall be deemed to be delivered, whether actually received or not, (a) when delivered in person, (b) upon confirmed receipt (or the first business day thereafter if receipt does not occur during business hours on a business day) if such item is sent by facsimile transmission to the appropriate party at its facsimile number set forth below or at such other number as it shall have thereafter specified by written notice delivered in accordance with this Article 24 (provided that a copy of such notice is also sent by another method pertained hereunder within one (1) business day after the same is transmitted by facsimile), (c) four (4) business days after such item is deposited in the United States mail, postage prepaid, certified or registered, return receipt requested, (d) one (1) business day after such item is deposited with Federal Express or other nationally recognized

overnight courier, shipping charges prepaid, addressed to the appropriate party hereto at its address set out below, or at such other address as it shall have theretofore specified by written notice delivered in accordance herewith:

LANDLORD:
City of Boulder City
401 California Avenue
Boulder City, Nevada 89005
Attn: City Manager
Facsimile: (702) 293-9433

with a copy to:

City of Boulder City
401 California Avenue
Boulder City, Nevada 89005
Attn: City Attorney
Facsimile: (702) 293-9438

TENANT:

Boulder City Solar, LLC
353 Sacramento Street, Suite 2100
San Francisco, CA 94111
Attn: Controller
Facsimile: (415) 935-2493

with copy to:

Boulder City Solar, LLC
353 Sacramento Street, Suite 2100
San Francisco, CA 94111
Attn: General Counsel
Facsimile: (415) 935-2493

and a copy to:

Winston & Strawn LLP
101 California Street
San Francisco, California 94111
Attn: Dirk Mueller, Esq.
Facsimile: (415) 591-1400

Payments of Base Rent and other rent due Landlord from Tenant shall be deemed to be remitted only upon actual receipt thereof by Landlord.

23. Default.

23.1. Events of Default. Each of the following events shall be an "Event of Default" under this Lease:

23.1.1. Tenant shall fail to pay any installment of rent hereby reserved as and when the same shall become due and shall not cure such default within thirty (30) days after written notice thereof is given by Landlord to Tenant;

23.1.2. Subject to the following sentence, Tenant shall fail to comply with any term, provision or covenant of this Lease, other than the payment of rent, and shall not cure such failure within ninety (90) days after written notice thereof is given by Landlord to Tenant. If such default cannot reasonably be cured within ninety (90) days, then Tenant shall have an additional reasonable period of time within which to cure such default so long as Tenant commences to cure such default within the initial ninety (90) day period and thereafter diligently prosecutes such cure to completion;

23.1.3. Tenant shall be adjudged insolvent, make a transfer in fraud of creditors or make an assignment for the benefit of creditors;

23.1.4. A receiver or trustee shall be appointed for all or substantially all of the assets of Tenant and Tenant shall not have had such appointment discharged within thirty (30) days after Tenant receives written notice of such appointment.

23.2. Landlord's Remedies. Upon the occurrence of any Event of Default, Landlord shall have the option to pursue any one or more of the following remedies subject to the provisions of Section 21.3:

23.2.1. Terminate this Lease, in which event Tenant shall immediately surrender the Leased Premises to Landlord, and if Tenant fails so to do, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in Rent, enter upon and take possession of the Leased Premises and remove Tenant and any other person who may be occupying the Leased Premises, in compliance with applicable laws and regulations, without being liable to prosecution or for any claim for damages; and Landlord may recover from Tenant:

23.2.1.1. The worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus

23.2.1.2. The worth at the time of award of any amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss Tenant proves could have been reasonably avoided; plus

23.2.1.3. The worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of the award exceeds the amount of such rental loss that Tenant proves could be reasonably avoided; plus

23.2.1.4. Any other reasonable amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease; and

23.2.1.5. At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

All such amounts shall be computed on the basis of the monthly amount thereof payable on the date of Tenant's default. As used in Sections 25.2.1.1 and 25.2.1.2 above, the "worth at the time of award" is computed by allowing interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law. As used in Section 23.2.1.3 above, the "worth at the time of award" is computed by discounting such amount at the discount rate of U.S. Treasury Notes with maturity similar to the remaining portions of the Lease Term at the time of award plus one percent (1%).

23.2.2. Enter upon and take possession of the Leased Premises and remove Tenant and other persons who may be occupying the Leased Premises, or any part thereof, in compliance with applicable laws and regulations, without being liable to prosecution or for any claim for damages, and relet the Leased Premises, as Tenant's agent, and receive the rent therefor; and Tenant agrees to pay Landlord on demand any deficiency that may arise by reason of such reletting.

23.2.3. Enter upon the Leased Premises, without being liable to prosecution or for any claim for damages, and do whatever Tenant is obligated to do under the terms of this Lease; and Tenant agrees to reimburse Landlord on demand for any reasonable and necessary, expenses which Landlord may incur in thus effecting compliance with Tenant's obligations hereunder.

Pursuit of any of the foregoing remedies shall not preclude pursuit of any of the other remedies herein provided or any other remedies provided by law, nor shall pursuit of any remedy herein provided constitute a forfeiture or waiver of any rent due to Landlord hereunder or of any damage accruing to Landlord by reason of the violation of any of the terms, provisions and covenants herein contained. Forbearance by Landlord to enforce one or more of the remedies herein provided upon the occurrence of an Event of default.

24. Hazardous Substances. Tenant's use of Hazardous Substances, as defined in Section 24.4, upon the Leased Premises is restricted under this Section 24.

24.1. Covenant. Tenant covenants to Landlord that it will not use, allow to be used on the Leased Premises, or bring onto, or allow to be brought onto, the Leased Premises, any Hazardous Substance, as defined below, except as may be reasonably required in connection with its business on the Leased Premises as specifically permitted under Section 5.1, and then only in full compliance with all applicable federal, state and local laws. Tenant shall require any permitted sublease to contain provisions similar to those set forth in this Section 26.

24.2. Right of Entry. Subject to applicable laws and Tenant's normal security policies, Landlord reserves the right to enter the Leased Premises and all Improvements thereon at any reasonable time and upon reasonable notice, and at any time in exigent circumstances, for the purpose of inspecting and examining the Leased Premises for the presence of any Hazardous Substance and whenever Landlord has a reasonable basis for believing that Tenant has not complied with this Section 24. If the results of such inspection or examination reveal the presence of Hazardous Substances in, on or about the Leased Premises due to Tenant's failure to be in compliance with Section 26, then Tenant shall reimburse Landlord for its costs incurred in undertaking such inspection and examination.

24.3. Indemnity. Tenant shall indemnify, defend and hold Landlord and its successors, assigns, agents, employees and representatives harmless from any and all Indemnified Costs (as the same are hereinafter defined) caused by the presence of Hazardous Substances in, on or about the Leased Premises and which are placed, or allowed to be placed, in, on or about the Leased Premises by Tenant, or incurred by Landlord in connection with the release, removal or storage of any Hazardous Substance placed, or allowed to be placed, in, on or about the Leased Premises by Tenant during the Term or any extension thereof. Landlord shall indemnify, defend and hold Tenant, its affiliates, its lenders, and the successors, assigns, agents, employees and representatives of each of the foregoing, harmless from any and all Indemnified Costs (as the same are hereinafter defined) caused by the presence of Hazardous Substances in, on or about the Leased Premises and which exist on the Leased Premises prior to the delivery thereof to Tenant or which are thereafter placed upon the Leased Premises by Landlord or which are placed on the Leased Premises after the termination of this Lease. The provisions of these indemnities shall not be affected or impaired by the expiration or any earlier termination of this Lease and shall survive any such expiration or termination. "**Indemnified Costs**" means all actual liabilities, claims, actions, causes of action, judgments, orders, damages, reasonable costs, reasonable expenses, fines, penalties and losses (including sums paid in settlement of claims and all reasonable consultant, expert and legal fees), including those incurred in connection with any investigation of site conditions or any cleanup, remedial, removal or restoration work (whether of the Leased Premises. or any other property), or any resulting damages, harm or injuries to the person or property of any third parties or to any natural resources. Without limiting the foregoing, Indemnified Costs incurred by Landlord as a result of any work of cure, mitigation, cleanup, remediation, removal or restoration shall bear interest in the per annum amount equal to two percent (2%) in excess of the Reference Rate of interest announced from time to time by Bank of America National Trust and Savings Association (or an equivalent rate announced by a comparable national bank selected by Landlord in the event Bank of America no longer announces a Reference Rate), but in no event in excess of the maximum interest rate permitted by law, until paid in full. In addition, Indemnified Costs are recoverable by Landlord regardless of whether: (i) the Indemnified Costs are incurred or suffered pursuant to the order of any federal, state or local governmental agency relating to the clean-up, remediation or other responsive action required by any applicable law; or (ii) Landlord now, or hereafter has or should have had actual knowledge of any environmental condition giving rise to any indemnity obligation of Tenant under this Section.

24.4. Hazardous Substances Defined. As used herein, the term "**Hazardous**

Substances" shall include: (i) petroleum or any of its fractions, flammable substances, explosives, radioactive materials, hazardous wastes or substances, toxic wastes or substances or any other similar materials or pollutants which pose a hazard to the Leased Premises, or to persons on or about same, or which cause the Leased Premises to be in violation of any law or local approval, or are defined as or included in the definition of "**hazardous substances**", "**hazardous wastes**", "**hazardous materials**", or "**toxic**", or words of similar import under any applicable law, including, but not limited to: (A) the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9601 et seq.; (B) the Hazardous Materials Transportation Act, as amended., 49 U.S.C. § 1801 et seq.; ©) the Resource Conservation and Recovery Act, as amended., 42 U.S.C. § 6901, et seq.; and (D) regulations adopted and publications promulgated pursuant to the aforesaid laws (collectively., the "**Environmental Laws**"); (ii) asbestos in any form which is or could become friable, urea formaldehyde foam insulation, transformers or other equipment which contain dielectric fluid containing levels of polychlorinated biphenyls in excess of 50 parts per million; and (iii) any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any governmental authority under any Environmental Laws.

24.5. Landlord's Legal Obligations. Nothing contained herein shall be deemed to limit Landlord's obligations under law for the removal or other remediation of Hazardous Substances which exist on the Leased Premises prior to the delivery thereof to Tenant or which are thereafter placed upon the Leased Premises by Landlord or which are placed on the Leased Premises after the termination of this Lease, or to impose upon Tenant any obligation for the removal of such Hazardous Substances.

25. Arbitration. If any controversy or claim between the parties hereto arises out of this Lease and if the parties are unable to agree by direct negotiations, the parties shall promptly mediate any such disagreement or dispute under the Commercial Mediation Rules of the American Arbitration Association. If the parties are unable to resolve such disagreement or dispute through mediation within forty-five (45) days after the first written notice of an election to mediate, then such disagreement or dispute (excluding an action by Landlord in unlawful detainer, as provided above) upon the request of either party hereto, shall be resolved by binding arbitration under the Commercial Arbitration Rules of the American Arbitration Association. Notwithstanding the foregoing, if the resolution of any controversy or claim requires the participation of a third party who is not required and who declines to participate in an arbitration proceeding, the parties shall not be required to proceed with an arbitration of such controversy or claim.

The arbitrators shall be appointed under the Commercial Arbitration Rules of the American Arbitration Association. As soon as the panel has been convened, a hearing date shall be set within a reasonable period thereafter. Written submittals shall be presented and exchanged by both parties before the hearing date, including reports prepared by experts upon whom either party intends to rely. At such time the parties will also exchange copies of all documentary evidence upon which they will rely at the arbitration hearing and a list of the witnesses whom they intend to call to testify at the hearing. Each party shall also make its respective experts available for deposition by the other party prior to the hearing date. The arbitrators shall make their award within one hundred eighty (180) days of the written for binding arbitration required by this Section unless otherwise agreed by the parties. In the event of a three-member panel, the

decision in which two (2) of the members or' the arbitration panel concur shall be the award of the arbitrators.

Except as otherwise specified herein, there shall be no discovery or dispositive motion practice (such as motions for summary judgment or to dismiss or the like) except as may be permitted by the arbitrators, who shall authorize only such discovery as is shown to be absolutely necessary to insure a fair hearing and no such discovery or motions permitted by the arbitrators shall in any way conflict with the time limits contained herein. Nothing herein shall be deemed to permit discovery in such arbitration proceeding except as provided above. The arbitrators shall not be bound by the rules of evidence or civil procedure, but rather may consider such writings and oral presentations as reasonable businessmen would use in the conduct of their day-to-day affairs, and may require the parties to submit some or all of their presentation as the arbitrators may deem appropriate. It is the intention of the parties to limit live testimony and cross-examination to the extent absolutely necessary to insure a fair hearing to the parties on the significant matters submitted to arbitration. The parties have included the foregoing provisions limiting the scope and extent of the arbitration with the intention of providing for prompt, economic and fair resolution of any dispute submitted to arbitration.

If Landlord gives Tenant notice of a claimed default pursuant to Section 24 of this Lease, and if Tenant in good faith elects to dispute such claimed default pursuant to the provisions of this Section 25, then any cure period provided in Section 24 as to such claimed default shall be tolled during the resolution of such dispute hereunder.

The arbitrator appointed shall have the discretion to award the costs of arbitration, arbitrator's fees and the respective reasonable attorneys' fees of each party as he or she may deem appropriate.

Judgment upon the award entered by the arbitrator may be entered in any court having jurisdiction thereof.

Notwithstanding the parties' agreement to mediate or arbitrate their disputes as provided herein, any party may seek emergency relief in a court of law without waiving the right to arbitrate.

The arbitrator shall make its award in accordance with applicable law and this Lease and based upon the evidence presented by the parties. At the request of either party at the start of the arbitration, findings of fact and conclusions of law shall be prepared in support of the arbitrator's award.

Nothing contained herein is intended to, nor shall the same limit, Landlord's right to pursue any action in unlawful detainer in the case of an Event of Default based upon the nonpayment of rent.

26. Right to Terminate. The Tenant shall have the right to terminate the Lease under the following conditions set forth in this Section 26.

26.1. Tenant may terminate the Lease for any reason any time prior to July 1, 2011

provided the payments set forth in Section 3.1 and in accordance with Section 3.1 are made to Landlord.

26.2. Tenant may terminate the Lease if Landlord fails to provide to Tenant the Transmission Line Easement within one hundred fifty(150) days of the Effective Date of the Lease set forth in Section 1.2 and all payments made to Landlord shall be refunded to Tenant.

26.3. Tenant may terminate the Lease with thirty (30) days notice: (a) in the event of a Material Damage to the Improvements per Section 13.1; or (b) a Force Majeure Event that continues for One Hundred Eight (180) days in the aggregate per Section 18.

26.4. Tenant may terminate the Lease with sixty (60) days prior notice if:

26.4.1. Permits and Licenses. Any governmental agency denies a request by Tenant for or revokes a permit, license or approval which is required for Tenant to either construct or operate a Photovoltaic Electrical Energy Generation Facility or any related facilities upon the Leased Premises; or

26.4. 2. Availability of Utilities. Utilities necessary for Tenant's use of the Leased Premises, including but not limited to water and natural gas, are not available to the Leased Premises.

In the event of Tenant's exercise of its right to terminate pursuant to this Section 26.3 or Section 26.4, then:

(i) Rent payable pursuant to Section 3.2 will be prorated to through and including the date of such termination or the date that Tenant shall actually vacate the Leased Premises, complete necessary demolition (as applicable) and reasonably restore the Leased Premises per Section 2.10, whichever shall be last to occur; and (ii) Any unearned portion of any quarterly rent consideration that may have been paid by Tenant pursuant to Sections 3.1 and 3.2 hereof, shall be refunded on a pro-rata basis.

Except as otherwise expressly stated in this Section 26, in the event of a termination by Tenant pursuant to this Section 26, Tenant shall be relieved of all further liability hereunder, save and except for its obligation to remove Tenant's Personal Property as provided under Section 2.10 and Tenant's indemnifications pursuant to Sections 15 and 24.

27. Provision of Electrical Power to Landlord. Tenant agrees to deliver to Landlord two (2) Megawatts of renewable energy equivalent to the patterned output of a 2 Megawatt Photo Voltaic (PV) generating facility up to a maximum of 3,000 Megawatthours per year. Said energy will be delivered to the 230 Kilovolt bus at Western Area Power's Mead Substation, located immediately south of the Boulder City townsite area.

If Tenant does not physically interconnect its generating facilities to Mead Substation, then Tenant will contract with a third party to deliver the renewable power to Landlord or pay a fee to Landlord as set forth below. Tenant agrees to provide such quantity of renewable energy to Landlord (or to cause it to be delivered to the Landlord) at a cost equal to 90% of the highest

tier of Landlord's energy component of the General Service (GS) rate in its most current published Utility Rate Schedule. Tenant agrees to provide this energy at this cost for the entire Lease Term. If Tenant does not deliver or cause to be delivered the renewable power, then Tenant shall pay Landlord a fee equal 2.2 times the cost to the Landlord to purchase the renewable power as set forth in this Section 27, less the cost that would have been by paid by Landlord if the renewable power had been delivered. Notwithstanding the forgoing, Tenant's maximum amount due to Landlord in any year shall not exceed the net amount of the fee, less the amount that would have been paid by the Landlord, and the aggregate obligations under this Section shall not exceed such net amount of Tenant's fee less Landlord's cost, times the number of years in the Lease Term.

For the avoidance of date, the amount to be paid by the Landlord for such renewable power provided by Tenant using the applicable City rates as of the Effective Date of $0.0660 per kilowatt hour for illustration) would be equal to:

3,000 Megawatthours x $0.0660 kilowatthour x 1,000 kilowatthours per Megawatt hour x 90% = $178,200. Using this example, the fee to be paid by the Tenant if it does not deliver (or cause to be delivered) such renewable power would be equal to 2.2 times $178,200, net of $178,200 received by Tenant from Landlord, equal to $213,840.

28. Miscellaneous.

28.1. Termination. In the event that this Lease is terminated pursuant to any right to do so herein contained, then except as specifically provided herein (such as, for example, but without limitation, in Section 2.10 (Tenant's obligation to remove the Improvements and regrade the Land), in Section 4 (the payment of hold-over rent by Tenant), in Section 15 (indemnity), and in Section 25 (hazardous materials)) neither Landlord nor Tenant shall thereafter have any further obligation or liability one to the other and this Lease shall be of no further force or effect.

28.2. Captions. The captions used in this Lease are for convenience only and shall not be deemed to amplify, modify or limit the provisions hereof.

28.3. Meanings. Words of any gender used in this Lease shall be construed to include the other gender, and words in the singular shall include the plural and vice versa, unless the context otherwise requires.

28.4. Successors and Assigns. Subject to the restrictions set forth herein as to assignment and subletting by Tenant, this Lease shall be binding upon and shall inure to the benefit of Landlord and Tenant and their respective heirs, legal representatives, successors and assigns.

28.5. Entire Agreement. Any Exhibits annexed to this Lease are hereby incorporated by this reference, with the same force and effect as if they were set forth in this Lease in their entirety. This Lease contains the entire agreement of Landlord and Tenant with respect to the subject matter hereof and cannot be altered, amended or modified except by a written instrument,

executed by both such parties.

28.6. Time. In the event the date for performance of an obligation or delivery of any notice hereunder falls on a day other than a business day, then the date for such performance or delivery of such notice shall be postponed until the next ensuing business day. Any references to "business days" contained herein are references to normal working business days (i.e., Monday through Friday of each calendar week, exclusive of Federal and Nevada state holidays).

28.7. Severability. If any term or provision, or any portion thereof, of this Lease, or application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, then the remainder of this Lease, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term and provision of this Lease shall be valid and be enforced to the fullest extent permitted by law.

28.8. Counterparts. This Lease may be signed in one or more counterparts with the same force and effect as if all required signatures were contained in a single, original instrument.

28.9. Attorneys' Fees. In the event of litigation between the parties to enforce this Lease, the prevailing party in any such action shall be entitled to recover reasonable costs and expenses of suit, including, without limitation, reasonable attorneys' fees and costs allowed by law.

28.10. Memorandum of Lease. Landlord and Tenant shall execute a memorandum of this Lease and record such memorandum in the Official Records of Clark County, State of Nevada.

28.11. Governing Law. This Lease shall be construed, interpreted, and enforced pursuant to the laws of the State of Nevada.

28.12. Consent of Landlord. For the purposes of this Lease, any approval or consent of Landlord shall be deemed to require the consent or approval of the City Council of the City of Boulder City by a resolution of said City Council unless otherwise expressly stated herein. Further, the execution or approval of any document contemplated or required under this Lease, including, but not limited to the Easement and Tenant's Plans, shall be executed or approved by the City Manager or such department director as may be designated by the City Manager.

28.13. No Party Deemed Drafter. The parties agree that neither party shall be deemed the drafter of this Lease and that in the event this Lease is ever construed by a court of law or equity, such court shall not construe this Lease or any provision hereof against either party as the drafter thereof. Landlord and Tenant acknowledge that each has contributed substantially and materially in the preparation of this instrument.

28.14. Binding Obligation. Tenant hereby represents and warrants to Landlord that: this Lease, as well as the consummation of the transactions contemplated hereby is valid and binding upon Tenant; the individuals executing this Lease on behalf of Tenant are authorized to so act; and that the execution hereof does not constitute a default (or an event which, with notice or the

passage of time or both, will constitute a default) under any contract to which Tenant is a party or by which Tenant is bound.

IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the Effective Date.

LANDLORD:

CITY OF BOULDER CITY,
a Nevada municipal corporation

By: _____
Vicki G. Mayes, City Manager

Attest: _____
Pamella Malmstrom, City Clerk

Approved as to Form and Legality:

_____
Dave Olsen, City Attorney

(Remainder of this page left blank intentionally)

TENANT:

BOULDER CITY SOLAR, LLC
a Delaware limited liability company

By: Frank DeRosa

Name: Frank DeRosa

Title: President

Date: 6/10/09

STATE OF NEVADA)
: ss.
County of Clark)

On June ____, 2009, before me, a Notary Public in and for said County and State, personally appeared _____, who represented that he/she is the _____ of _____ a Nevada limited liability company, and that in such capacity he/she did execute the above and foregoing instrument on behalf of _____, and for the uses and purposes stated therein.

_____
NOTARY PUBLIC

EXHIBIT "A"

DESCRIPTION OF LEASED PREMISES

[ATTACHED]

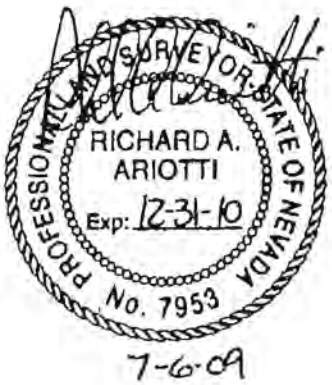
Exhibit A

LEGAL DESCRIPTION

THOSE PORTIONS OF SECTION 31 AND SECTION 32, TOWNSHIP 24 SOUTH, RANGE 63 EAST, M.D.M., SECTION 5 AND SECTION 8, TOWNSHIP 25 SOUTH, RANGE 63 EAST, M.D.M., IN THE CITY OF BOULDER CITY, COUNTY OF CLARK, STATE OF NEVADA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 8, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE SOUTH 00°24'31" EAST 2639.28 ALONG THE EAST LINE OF SAID SECTION 8 TO THE EAST QUARTER CORNER OF SAID SECTION 8, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE SOUTH 00°23'51" EAST 2639.77 FEET ALONG THE EAST LINE OF SAID SECTION 8; THENCE SOUTH 89°40'37" WEST 2641.64 FEET ALONG THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE1/4) OF SAID SECTION 8 TO THE SOUTH QUARTER CORNER OF SAID SECTION 8, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE SOUTH 89°40'49" WEST 2116.97 FEET TO THE SOUTHEAST CORNER OF LEASE AREA NO. 1 AS PER MAP RECORDED IN FILE 177 PAGE 22 OF SURVEYS IN THE OFFICE OF THE CLARK COUNTY RECORDER, SAID POINT BEING AN ALUMINUM CAP STAMPED "E.G. RADIG, INC. PLS 7953; THENCE NORTH 00°23'52" WEST 5280.02 FEET ALONG THE EAST LINE OF SAID LEASE AREA NO. 1 TO A POINT ON SECTION LINE BETWEEN SAID SECTION 5 AND SECTION 8, SAID POINT BEING A NAIL AND BRASS TAG STAMPED "PLS 7953"; THENCE NORTH 89°41'24' EAST 53.24 FEET ALONG SAID SECTION LINE TO A POINT ON THE EASTERLY RIGHT-OF-WAY OF SOUTHWEST GAS CORPORATION AS PER BUREAU OF LAND MANAGEMENT RIGHT-OF-WAY SERIAL NUMBER N-7841; THENCE NORTH 04°59'07" WEST 6094.15 FEET ALONG SAID RIGHT-OF-WAY; THENCE SOUTH 89°38'00" WEST 2717.19 FEET ALONG THE NORTH LINE OF THE NEVADA SOLAR ONE LEASE AREA AS PER MAP RECORDED IN FILE 139 PAGE 80 OF SURVEYS IN THE RECORDER'S OFFICE OF CLARK COUNTY, SAID POINT BEING THE NORTHWEST CORNER OF THE NEVADA SOLAR ONE LEASE AREA; THENCE NORTH 00°25'14" WEST 2072.61 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 31; THENCE NORTH 89°36'56" EAST 2294.54 FEET ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER (SE1/4) OF SAID SECTION 31 TO THE QUARTER SECTION CORNER OF SAID SECTION 31 AND SAID SECTION 32, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP; THENCE NORTH 89°38'48" EAST 2641.40 FEET ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SAID SECTION 32 TO THE CENTER QUARTER CORNER FOR SECTION 32; THENCE SOUTH 0°25'59" EAST 2639.79 FEET ALONG SAID CENTERLINE OF SECTION 32; THENCE NORTH 89°39'07" EAST 331.90 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 5, SAID POINT BEING AN ORIGINAL GOVERNMENT LAND OFFICE (GLO) BRASS CAP ON THE TOWNSHIP LINE BETWEEN TOWNSHIP 24 SOUTH AND TOWNSHIP 25 SOUTH; THENCE SOUTH 00°24'02" EAST 5509.21 FEET ALONG THE CENTERLINE OF SAID SECTION 5 TO QUARTER SECTION CORNER FOR SAID SECTION 5 AND SAID SECTION 8; THENCE NORTH 89°41'25" EAST 2640.60 FEET ALONG THE SECTION LINE BETWEEN SECTION 5 AND SECTION 8 TO THE POINT OF BEGINNING.

CONTAINS 1129.20 ACRES



7-6-09

Prepared by:
Richard A. Ariotti, Nevada P.L.S. No. 7953
Acting as Agent for:

E.G. Radig, Inc.
1577 Foothill Drive #1
Boulder City, NV 89005
Phone: (702) 293-3330
Fax: (702) 293-6153

EXHIBIT "B"

DRAWING OF SITE

[ATTACHED]

Exhibit B

PROFESSIONAL LAND SURVEYOR
STATE OF NEVADA
RICHARD A. ARIOTTI
Exp: 12-31-10
No. 7953
7-2-09

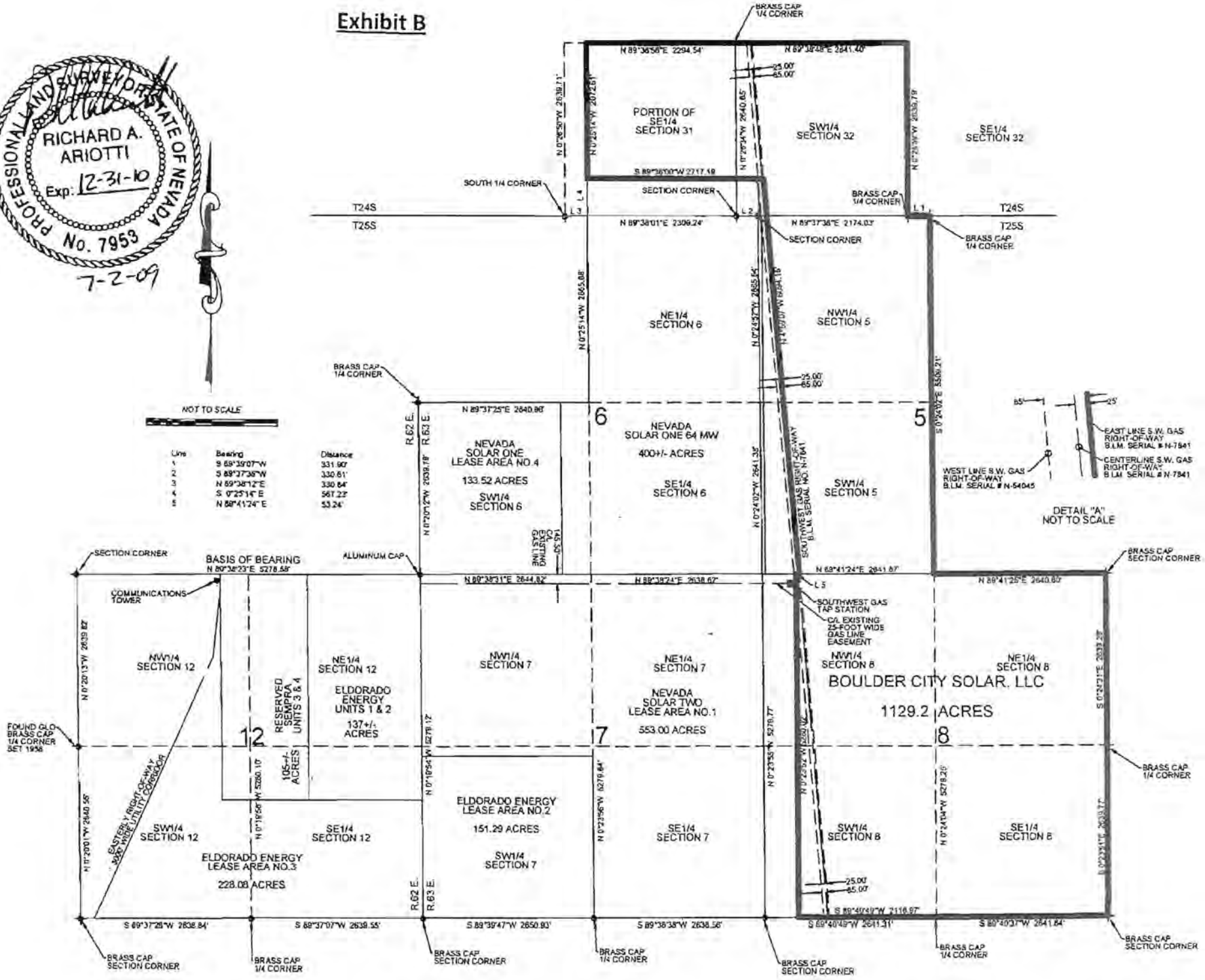

NOT TO SCALE
Line Bearing Distance
1 S 89°39'07"W 331.90'
2 S 89°37'36"W 330.61'
3 N 89°38'12"E 330.84'
4 S 0°25'16"E 567.23'
5 N 89°41'24"E 53.24'
BRASS CAP 1/4 CORNER
N 89°36'56"E 2294.54'
N 89°38'48"E 2641.40'
PORTION OF SE1/4 SECTION 31
SW1/4 SECTION 32
SE1/4 SECTION 32
SOUTH 1/4 CORNER
SECTION CORNER
T24S
T25S
N 89°38'01"E 2309.24'
N 89°37'36"E 2174.03'
NE1/4 SECTION 6
NW1/4 SECTION 5
NEVADA SOLAR ONE LEASE AREA NO.4
133.52 ACRES
SW1/4 SECTION 6
NEVADA SOLAR ONE 64 MW
400+/- ACRES
SE1/4 SECTION 6
SW1/4 SECTION 5
SOUTHWEST GAS RIGHT-OF-WAY B.L.M. SERIAL NO. N-7841
EAST LINE S.W. GAS RIGHT-OF-WAY B.L.M. SERIAL # N-7841
CENTERLINE S.W. GAS RIGHT-OF-WAY B.L.M. SERIAL # N-7841
WEST LINE S.W. GAS RIGHT-OF-WAY B.L.M. SERIAL # N-54045
DETAIL "A" NOT TO SCALE
N 89°37'25"E 2640.86'
N 89°38'31"E 2644.82'
N 89°38'24"E 2638.62'
N 89°41'24"E 2641.87'
N 89°41'25"E 2640.62'
ALUMINUM CAP
BASIS OF BEARING N 89°38'23"E 5278.58'
SOUTHWEST GAS TAP STATION
C/L EXISTING 25-FOOT WIDE GAS LINE EASEMENT
COMMUNICATIONS TOWER
NW1/4 SECTION 12
NE1/4 SECTION 12
ELDORADO ENERGY UNITS 1 & 2
137+/- ACRES
RESERVED SEMPRA UNITS 3 & 4
105+/- ACRES
NW1/4 SECTION 7
NE1/4 SECTION 7
NEVADA SOLAR TWO LEASE AREA NO.1
553.00 ACRES
NW1/4 SECTION 8
NE1/4 SECTION 8
BOULDER CITY SOLAR, LLC
1129.2 ACRES
FOUND GLO BRASS CAP 1/4 CORNER SET 1958
EASTERLY RIGHT-OF-WAY 300' WIDE UTILITY CORRIDOR
SW1/4 SECTION 12
SE1/4 SECTION 12
ELDORADO ENERGY LEASE AREA NO.3
228.08 ACRES
ELDORADO ENERGY LEASE AREA NO.2
151.29 ACRES
SW1/4 SECTION 7
SE1/4 SECTION 7
SW1/4 SECTION 8
SE1/4 SECTION 8
S 89°37'28"W 2638.84'
S 89°37'07"W 2639.55'
S 89°39'47"W 2650.93'
S 89°38'38"W 2638.56'
S 89°40'49"W 2641.31'
S 89°40'37"W 2641.84'
BRASS CAP SECTION CORNER
BRASS CAP 1/4 CORNER

EXHIBIT "C"

TITLE EXCEPTIONS

[PER TITLE INSURANCE DOCUMENT OR AS SET FORTH BELOW]

1. STATE AND COUNTY REAL PROPERTY TAXES FOR THE FISCAL PERIOD 1996-1997 ARE EXEMPT.

2. ANY SUPPLEMENTAL TAXES WHICH MAY BECOME A LIEN ON THE LAND BY REASON OF INCREASED VALUATIONS DUE TO LAND USE OR IMPROVEMENT, NRS 361.260, OR OTHERWISE.

3. TERMS, COVENANTS AND STIPULATIONS CONTAINED IN THE ELDORADO VALLEY ACT, PUBLIC LAW 85-339 DATED MARCH 6, 1958 AS AMENDED.

4. MINERAL RIGHTS RESERVATIONS, EASEMENTS AND EXCLUSIONS IN UNRECORDED PATENT NO. 27-95-002 FROM THE UNITED STATES TO COLORADO RIVER COMMISSION OF NEVADA, ACTING FOR THE STATE OF NEVADA, DATED JULY 9, 1995.

5. AN EASEMENT AFFECTING THAT PORTION OF THE LAND AND FOR THE PURPOSES THEREIN AND INCIDENTAL PURPOSES THERETO, IN FAVOR OF THE DEPARTMENT OF WATER AND POWER OF THE CITY OF LOS ANGELES, CALIFORNIA, FOR ELECTRICAL POWER TRANSMISSION LINE (PERMIT NO. – 4790), RECORDED JUNE 26, 1989, IN BOOK 890626 AS DOCUMENT NO. 00531 OF OFFICIAL RECORDS.

6. EASEMENTS AND OTHER RIGHTS AS SET FORTH IN DEED RECORDED JULY 10, 1995 IN BOOK 950710 AS DOCUMENT NO. 00559 OF OFFICIAL RECORDS, AS FOLLOWS:

   a. A RIGHT-OF-WAY THEREON FOR DITCHES OR CANALS CONSTRUCTED BY THE AUTHORITY OF THE UNITED STATES. ACT OF AUGUST 30, 1890 (43 U.S.C. 945).

   b. CERTAIN RIGHT-OF-WAY CORRIDORS FOR TRANSPORTATION AND PUBLIC UTILITIES AS DESIGNATED IN SAID DEED.

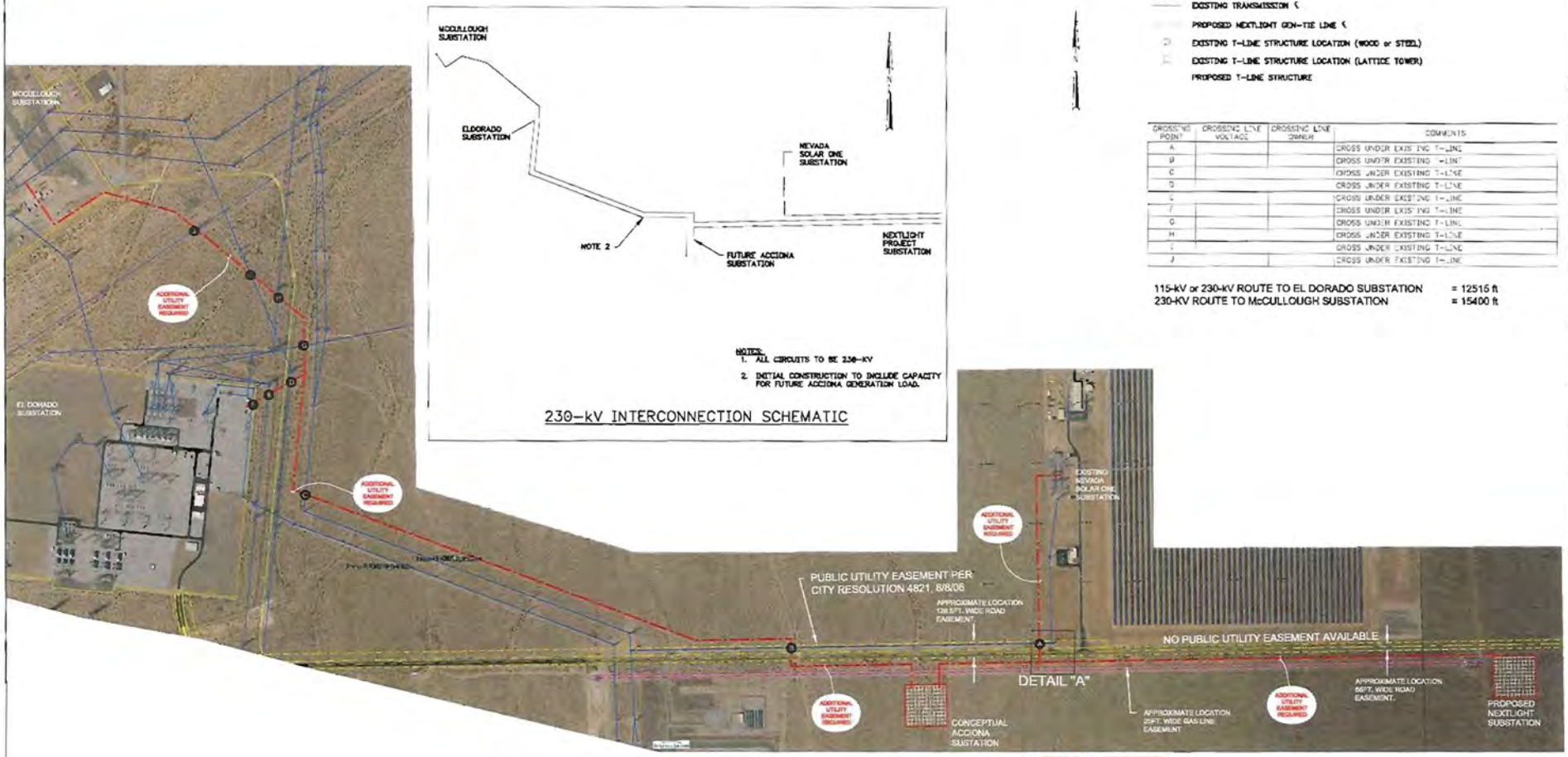
   c. THOSE RIGHTS FOR POWER SUBSTATION, ROAD AND DRAINAGE AREA PURPOSES GRANTED TO NEVADA POWER COMPANY, SALT RIVER PROJECT AND SOUTHERN CALIFORNIA EDISON COMPANY, THEIR SUCCESSORS OR ASSIGNS, BY RIGHT-OF-WAY NO. N-2655–2655, PURSUANT TO THE ACT OF MARCH 4, 1911 (43 U.S.C. 961).

d. THOSE RIGHTS FOR POWER SWITCHING STATION AND ROAD PURPOSES GRANTED TO THE CITY OF LOS ANGELES, ITS SUCCESSORS OR ASSIGNS, BY RIGHT-OF-WAY NO. N-2763–2763. PURSUANT TO THE ACT OF MARCH 4, 1911 (43 U.S.C. 961).

7. ALL CLAIMS TO, OR INTERESTS IN RIGHTS TO WATER, MINERALS, OIL, GAS AND ANY INTERESTS GRANTED UNDER THE TAYLOR GRAZING ACT IN AND TO THE LAND HEREIN DESCRIBED.

EXHIBIT "D"

TRANSMISSION LINE EASEMENT



NextLight

TriAxis Engineering, Inc.

DSGN	DR	CHK	APVD
mtp	mtp	mtp	jpp

NO.	DATE	REVISION	BY	APVD

BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NEXTLIGHT RENEWABLE ENERGY, LLC

BOULDER CITY ENERGY ZONE PV PROJECT

115-kV and 230-kV ROUTE ALTERNATIVES

SHEET	1 of 1
DWG NO.	BCEZ_OPTION_2
DATE	APR '09
PROJ NO.	Y2582

PRELIMINARY

AFFP DISTRICT COURT
Clark County, Nevada

AFFIDAVIT OF PUBLICATION

STATE OF NEVADA)
COUNTY OF CLARK) SS:

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,

LIONEL SAWYER & COLLINS 3838888LIO 5930789

was continuously published in said Las Vegas Review-Journal and / or Las Vegas Sun in 1 edition(s) of said newspaper issued from 12/12/2009 to 12/12/2009, on the following days:

12/12/2009

Signed: Stacey M. Lewis

SUBSCRIBED AND SWORN BEFORE ME THIS, THE

15TH day of DECEMBER, 2009.

Janet E. Miles
Notary Public

JANET E. MILES
Notary Public State of Nevada
No. 09-8939-1
My appt. exp. Nov. 13, 2012

...MISSION OF NEVADA

NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT UTILITY FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

NextLight Renewable Power, LLC (the "Company") is submitting, pursuant to the Nevada Utility Environmental Protection Act ("UEPA"), an application to the Public Utilities Commission of Nevada (the "Commission") for authority and a permit to construct the Boulder City Solar Project, a photovoltaic power plant, under Nevada Revised Statutes, Chapter 704, Sections .802 to .900, and Nevada Administrative Code, Chapter 703, Section 415 to 427. The Boulder City Solar Project will be located within the city limits of Boulder City, Nevada on approximately 1,130 acres of city-owned land.

This Boulder City Solar Project is being undertaken to nominally generate up to 150 megawatts ("MW") of new electric power to provide reliable electric power consistent with federal and state renewable energy portfolio objectives; and will include a 150-megawatt solar photovoltaic ("PV") generating facility situated approximately 12 miles south of the intersection of US Highways 93 and 95, west of Highway 95. The Project includes a 230-kilovolt ("kV") transmission line "gen-tie" line that will interconnect the on-site substation to one or two nearby substations. The gen-tie line will consist of one or two 230 kV circuits constructed on steel poles. The Project has been proposed by NextLight in response to the City's request for proposals to develop a solar energy project in the City's Solar Energy Zone. The proposed facility site will be accessible from Eldorado Valley Drive, a paved private road.

The contents of the UEPA Application will include, but are not limited to:

1. A general description of the location of the proposed facility, including: (a) a regional map that identifies the location of the proposed utility facility; (b) a legal description of the site of the proposed facility; and (c) appropriately scaled site drawings of the proposed facility, vicinity maps, and routing maps;
2. A description of the proposed utility facility, including: (a) the size and nature of the proposed utility facility; (b) the natural resources that will be used during the construction and operation of the proposed utility facility; (c) layout diagrams of the structures at the proposed facility and its associated equipment; and (d) scaled diagrams of the structures at 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 reasonable alternative locations for the proposed facility, a description of 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. An explanation of the nature of the probable effect on the environment including: (a) a reference to any studies; (b) an environmental statement including the name, qualifications, professions, and contact information of each person with primary responsibility for the preparation of the environmental statement, each person who provided comments or input in the preparation of the environmental statement, and a bibliography of materials used in the preparation of the environmental statement; (c) a description of the environmental characteristics of the project area existing at the time the application or amended application is filed with the Commission and the environmental impacts that the construction and operation of the proposed facility will have before and after mitigation;
6. An explanation of the extent to which the proposed facility is needed to ensure reliable utility service to customers of this State;
7. An explanation of how the proposed facility balances any adverse effect on the environment;
8. An explanation of how the proposed facility represents the minimum adverse effect on the environment, including: (a) the state of available technology; (b) the nature of various alternatives; and (c) the economics of various alternatives;
9. An explanation of how the location of the proposed facility conforms to applicable state and local laws and regulations, including a list of all permits, licenses and approvals required by federal, state and local statutes, regulations and ordinances, including all permits, licenses and approvals the applicant has obtained and the status of the applicant in the process of obtaining them;
10. An explanation of how the proposed facility will serve the public interest, including: (a) the economic benefits to this State; (b) how the proposed facility will enhance the reliability of the applicant and the state; (c) the impact of the proposed facility on the environment in this State if the proposed facility is constructed; (d) the impact of the proposed facility on the public health, safety and welfare of the residents of this State if the proposed facility is constructed; and (e) the interstate benefits expected to be achieved by the proposed interconnection or transmission facility in this State, if applicable.

A copy of the application will be available on the Commission's website following the Company's filing of the application. Additional information about the UEPA process and proceedings to date can be found in Nevada Revised Statutes and Nevada Administrative Code Chapters 703 and 704.

Pub. Dec. 18 & 23, 2009
Las Vegas Review-Journal

CERTIFICATE OF SERVICE

I hereby certify that I am an employee of Lionel Sawyer & Collins and on December 22, 2009, I caused to be served, a true and correct copy of the **Application of NextLight Renewable Power, LLC For A Permit to Construct the Boulder City Solar Facility Pursuant to The Utility Environmental Protection Act** via U.S. Mail or as indicated below to the following parties:

U.S. MAIL TRANSMITTAL:

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Diana Alba
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P.O. Box 551601
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Chief Deputy Attorney General
Office of the Attorney General
Bureau of Consumer Protection
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Carson City, Nevada 89701

Nevada Division of Environmental Protection
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Carson City, Nevada 89701

Nevada Department of Conservation and Natural Resources
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Carson City, Nevada 89701

ELECTRONIC & U.S. MAIL TRANSMITTAL:

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clearinghouse@state.nv.us

DATED this 22nd day of December, 2009.

Lillie M. Kershaw

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