CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833-2937
Tel 916.920.0300
Fax 916.920.8463

CH2MHILL

May 5, 2010

Mr. John Kessler
Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Rice Solar Energy Project (09-AFC-10)
Response to CEC Data Request 61

Dear Mr. Kessler:

Attached please find one hardcopy and one CD of Rice Solar Energy, LLC's response to the following California Energy Commission Staff Data Request for the Application for Certification for the Rice Solar Energy Project (09-AFC-10):

- Data Request 61 – Lake and Streambed Alteration Notification

If you have any questions about this matter, please contact me at (916) 286-0278 or Sarah Madams at (916) 286-0249.

Sincerely,

Douglas M. Davy, Ph.D.
AFC Project Manager

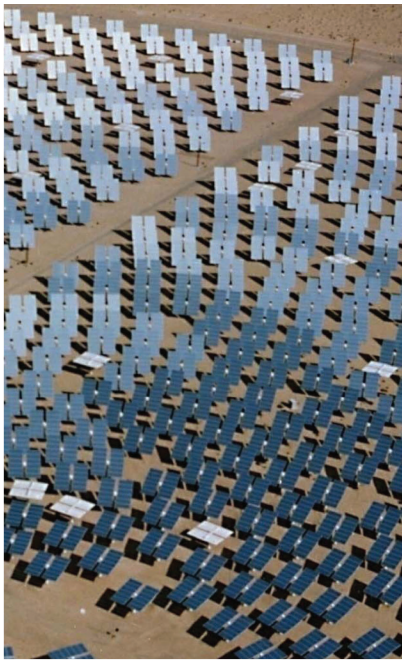
cc: POS List
Project File

Supplemental Filing

Application for Certification

Response to Data Request 61

Rice Solar Energy Project



Submitted by
SOLARRESERVE

Submitted to
California Energy Commission

With Technical Assistance by
CH2MHILL

EY072009005SAC

May 2010

Supplemental Filing

Response to CEC Staff Data Request 61

In support of the

Application for Certification

for the

Rice Solar Energy Project

(09-AFC-10)

Submitted to the:

California Energy Commission

Submitted by:

SOLARRESERVE

With Technical Assistance by:

CH2MHILL

Sacramento, California

May 2010

Contents

Introduction

Attached is Rice Solar Energy, LLC's (RSE) response to California Energy Commission (CEC) Staff data request number 61 for the Rice Solar Energy Project (RSEP) (09-AFC-10). The CEC Staff served the data requests on February 16, 2010, as part of the discovery process for the RSEP.

The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as CEC Staff presented them and are keyed to the Data Request number. New or revised graphics or tables are numbered in reference to the Data Request number. For example, the first table used in response to Data Request 15 would be numbered Table DR15-1. The first figure used in response to Data Request 28 would be Figure DR28-1, and so on.

Additional tables, figures, or documents submitted in response to a data request (supporting data, stand-alone documents such as plans, folding graphics, etc.) are found at the end of a discipline-specific section and are not sequentially page-numbered consistently with the remainder of the document, although they may have their own internal page numbering system.

Biological Resources (61)

Lake and Streambed Alteration Notice

61. *After completing the revised delineation, please prepare and submit a Lake and Streambed Alteration Notification to the California Department of Fish and Game and Energy Commission staff.*

Response: The Lake and Streambed Alteration Notification is provided as Attachment DR61-1.

Attachment DR61-1
Lake and Streambed Alteration Notice

SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
916/ 427-0703 Fax 916/ 427-2175

30 April 2010

Ms. Leilani Latonio
California Department of Fish and Game
Eastern Sierra and Inland Deserts (Region 6), LSAA Program
4665 Lampson Avenue, Suite J
Los Alamitos, CA 90720
Phone: 562/ 430-7212

Subject: Application for a 1602 Streambed Alteration Agreement for the Rice Solar Energy Project (CEC Docket #: 09-AFC-10), Riverside County, CA

Dear Ms. Latonio:

Rice Solar Energy, LLC submitted an Application for Certification to the California Energy Commission on October 21, 2009 for the Rice Solar Energy Project in Riverside County. The CEC docket number is 09-AFC-10. The CEC accepted the AFC.

The Rice Solar Energy Project will result in the diversion and/or substantial changes to the ephemeral drainages in the project area. These drainages were mapped during a wetland delineation conducted in 2010. Attached is a completed California Fish and Game Streambed Alteration Agreement Form (FG2023) and a check for $4,482.75. Additional details on project construction, drainage, and vegetation resources present, and impacts that are anticipated to occur as a result of the project are provided in Exhibit A, Supplemental Information.

The appendices to the Application for Certification (AFC) contain several environmental reports prepared in support of the project. These include a Botanical Inventory Report, a Conceptual Project Drainage Plan, and a Draft Stormwater Pollution Prevention Plan. Please refer to the AFC appendices to review these studies. After the AFC was submitted to the CEC, a Wetland Delineation Report and a Supplemental Data Response for the Botanical Inventory Report were prepared. These two documents are attached for your review.

For your convenience, this application package is also being provided in electronic format (enclosed). If you have any questions regarding this application, please contact me at 916/ 427-0703, or via email at John.Little@SycamoreEnv.com.

Yours truly,

R. John Little, Ph.D.
President

c: Matthew Held, Rice Solar Energy, LLC
Doug Davy, Ph.D., CH2M Hill
John Kessler, CEC

ENCLOSURES

FOR DEPARTMENT USE ONLY				
Date Received	*Amount Received*	*Amount Due*	*Date Complete*	*Notification No.*
	$	$		

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Rice Solar Energy, LLC		
Business/Agency	Contact: Matthew Held, Vice President		
Street Address	2425 Olympic Boulevard, Suite 500 East		
City, State, Zip	Santa Monica, CA 90404		
Telephone	(310) 315-2275	Fax	(310) 315-2201
Email			

2. CONTACT PERSON (*Complete only if different from applicant*)

Name	R. John Little, Ph.D.		
Street Address	6355 Riverside Blvd., Suite C		
City, State, Zip	Sacramento, CA 95831		
Telephone	(916) 427-0703	Fax	(916) 427-2175
Email	John.Little@SycamoreEnv.com		

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name			
Street Address			
City, State, Zip			
Telephone		Fax	
Email			

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Rice Solar Energy Project			
B. Agreement Term Requested	☑ Regular (*5 years or less*) ☐ Long-term (*greater than 5 years)*			
C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (*year*)	Ending (*year*)	Start Date (*month/day*)	End Date (*month/day*)	
2011	2013	04/01	09/30	771.00

5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.

A.	☑ Standard *(Most construction projects, excluding the categories listed below)*	
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*)	*Mine I.D. Number:* _____
C.	☐ Timber Harvesting (*Attachment B*)	THP *Number:* _____
D.	☐ Water Diversion/Extraction/Impoundment (*Attachment C*)	*SWRCB Number:* _____
E.	☐ Routine Maintenance (*Attachment D*)	
F.	☐ DFG Fisheries Restoration Grant Program (FRGP)	*FRGP Contract Number:* _____
G.	☐ Master	
H.	☐ Master Timber Harvesting	

6. FEES

Please see the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: The Department may not process this notification until the correct fee has been received.***

	A. Project	B. Project Cost	C. Project Fee
1	Rice Solar Energy Project	$500,000.00	$4,482.75
2			
3			
4			
5			
		D. Base Fee *(if applicable)*	
		E. TOTAL FEE ENCLOSED	$4,482.75

7. PRIOR NOTIFICATION OR ORDER

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?

☐ Yes (*Provide the information below*) ☑ No

Applicant: _____ Notification Number: _____ Date: _____

B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?

☑ No ☐ Yes (*Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.*)

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.

(*Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway*)

The project is located within Rice Valley in eastern Riverside County, approximately 16 mi southwest of Vidal Junction. State Route 62 is immediately north of the project site. From Twentynine Palms, take SR 62 east for 75 miles to the former Rice Army Airfield. The project is located at the former airfield.

The project includes a solar energy collector facility and approximately 10 mi of transmission line. The solar collector site would be located in portions of Sections 19, 20, 29, and 30, in Township 1 South, Range 21 East (T1S, R21E), San Bernardino Base and Meridian. The new transmission line would be located in portions of T1S R21E Sections 28, 33, 34, and 35; T2S R21E, Sections 1 and 2; T2S R22E, Sections 6, 7, 8, 16, 17, 21 and 22.

The transmission line would extend toward the east from the south central portion of the project area along a new access road for approximately 4.6 mi to where it intercepts Rice Valley Road (a dirt road) and would parallel Rice Valley Road for 5.4 mi to the Western Area Power Administration, Parker-Blythe 161 kV transmission line. A new substation (300 ft x 400 ft) would be located where the new transmission line connects with the Parker-Blythe transmission line.

☐ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	Numerous ephemeral drainages
C. What water body is the river, stream, or lake tributary to?	None--Rice Valley is a drainage sink.
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	Riverside

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
Rice	See 8.A above			
Grommet	See 8.A above			
Big Maria Mountains Northwest	See 8.A above			

☐ *Continued on additional page(s)*

K. Meridian (*check one*) ☐ Humboldt ☐ Mt. Diablo ☑ San Bernardino

L. Assessor's Parcel Number(s)

Please see Exhibit A, Supplemental Information, for a complete list of APNs.

☑ *Continued on additional page(s)*

M. Coordinates (*If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes*)

Latitude/Longitude	*Latitude:* 35.0201 N	*Longitude:* 118.1260 W	
	☐ Degrees/Minutes/Seconds	☐ Decimal Degrees	☑ Decimal Minutes
UTM	*Easting:* 702,759	*Northing:* 3,771,557	☐ Zone 10 ☑ Zone 11
Datum used for Latitude/Longitude or UTM	☐ NAD 27	☑ NAD 83 or WGS 84	

9. PROJECT CATEGORY AND WORK TYPE *(Check each box that applies)*

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☐	☐	☐
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☐
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☐	☐	☐
Channel clearing/vegetation management	☑	☐	☐
Culvert	☐	☐	☐
Debris basin	☑	☐	☐
Dam	☐	☐	☐
Diversion structure – weir or pump intake	☐	☐	☐
Filling of wetland, river, stream, or lake	☑	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☐	☐	☐
Levee	☐	☐	☐
Low water crossing	☐	☐	☐
Road/trail	☑	☐	☐
Sediment removal – pond, stream, or marina	☐	☐	☐
Storm drain outfall structure	☐	☐	☐
Temporary stream crossing	☑	☐	☐
Utility crossing : Horizontal Directional Drilling	☐	☐	☐
Jack/bore	☐	☐	☐
Open trench	☑	☐	☐
Other *(specify)*:	☐	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

Please see Exhibit A, Supplemental Information, for a complete project description.

☑ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

Specific information on types, quantities, and operating schedules of construction equipment is not available at this point in project development. Typical construction equipment from similarly sized industrial projects includes dump trucks, bulldozers, backhoes, front-end loaders, graders, concrete mixers, derrick cranes, jack hammers, pneumatic tools, and vibratory pile drivers.

☐ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	☐ Yes ☑ No (*Skip to box 11*)
D. Will the proposed project require work in the wetted portion of the channel?	☐ Yes (*Enclose a plan to divert water around work site*) ☑ No

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

Please see Exhibit A, Supplemental Information, for a description of the project impacts.

☐ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☑ Yes (*Complete the tables below*) ☐ No

Vegetation Type	Temporary Impact	Permanent Impact
Please see Exhibit A, Supplemental Information, for vegetation impacts.	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)

☐ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

Please see Exhibit A, Supplemental Information

☐ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

Biological Resources Section of the project's Application for Certification by the California Energy Commission.

☐ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

F. Has a hydrological study been completed for the project or project site?

☐ Yes (*Enclose the hydrological study*) ☑ No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

Please see the Preliminary Stormwater Pollution Prevention Plan and the Conceptual Project Drainage Plan in Volume 2 of the project's Application for Certification by the California Energy Commission.

☐ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

Please see the Biological Resources Section of the project's Application for Certification by the California Energy Commission.

☐ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

Draft mitigation and compensation measures are described in the Biological Resources Section of the project's Application for Certification by the California Energy Commission. Final measures are still under negotiation with CDFG and BLM management.

☐ *Continued on additional page(s)*

13. PERMITS

List any local, state, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A. CDFG 2081 Incidental Take Permit ☐ Applied ☐ Issued

B. USFWS Biological Opinion (BO) pursuant to Section 7 of the ESA ☐ Applied ☐ Issued

C. RWQCB Waste Discharge Requirements ☐ Applied ☐ Issued

D. Unknown whether ☐ local, ☐ state, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☐ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?

☐ Yes (*Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each*)

☑ No (*Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared*)

☐ Notice of Exemption	☐ Mitigated Negative Declaration	☑ NEPA document (*type*): EIS
☐ Initial Study	☑ Environmental Impact Report	☐ CESA document (*type*):
☐ Negative Declaration	☐ Notice of Determination *(Enclose)*	☑ ESA document (*type*): Biological Opinion
☐ THP/ NTMP	☑ Mitigation, Monitoring, Reporting Plan	

B. State Clearinghouse Number (*if applicable*)			
C. Has a CEQA lead agency been determined?	☑ Yes (*Complete boxes D, E, and F*)	☐ No (*Skip to box 14.G*)	
D. CEQA Lead Agency	California Energy Commission		
E. Contact Person	John Kessler	F. Telephone Number	(916) 654-4679

G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.

☐ *Continued on additional page(s)*

H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?

☐ Yes (*Enclose proof of payment*) ☑ No (*Briefly explain below the reason a filing fee has not been paid)*

The filing fee will be paid when the notice of determination is filed per Section 21080.5 of the Public Resources Code.

Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.

15. SITE INSPECTION

Check one box only.

☐ In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.

☑ I request the Department to first contact (*insert name*) R. John Little, Ph.D. at (*insert telephone number*) (916) 427-0703 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

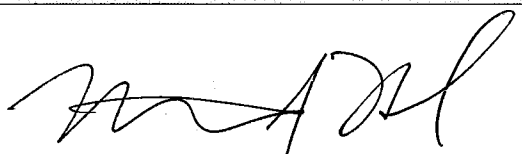
Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☑ Yes (Please enclose the information via digital media with the completed notification form)

☐ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.



Signature of Applicant or Applicant's Authorized Representative

05/05/10
Date

Matthew J. Held
Print Name

Exhibit A:

Supplemental Information

for the

California Department of Fish and Game
1602 Streambed Alteration Agreement Application

Rice Solar Energy Project

Riverside County, CA

Prepared by:

Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C
Sacramento, CA 95831
Phone: 916/ 427-0703
Contact: R. John Little, Ph.D.

Prepared for:

CH2M Hill, Inc.
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833-2975
Phone: (916) 920-0300
Contact: Doug Davy, Ph.D.

30 April 2010

SAA Supplemental
for the
Rice Solar Energy Project

Riverside County, CA

Table of Contents

SUPPLEMENTAL INFORMATION

The following supplemental provides detailed information for the Rice Solar Energy Project (RSEP) required by the California Fish and Game Notification of Lake or Streambed Alteration Form (FG2023). Items are numbered according to the question order on Form FG2023.

QUESTION 1. Applicant Information

Rice Solar Energy, LLC, is a wholly owned subsidiary of SolarReserve, LLC.

QUESTIONS 4C–E. Construction Schedule

Construction of the project is planned to begin in spring 2011 with clearing and grubbing of the power block area. Other areas within the 1,410-acre heliostat field will be cleared only as needed to install the heliostats or provide permanent access to them for mirror washing. Therefore, some level of grading within the heliostat field is expected to continue for the length of time that it takes to install the 17,500 heliostats. Areas next to and under the heliostats will be left ungraded but may be disturbed by vehicles during construction. Based upon an anticipated construction period of approximately 30 months, commercial operation is targeted for October 2013. Construction will likely include a peak workforce of approximately 438 on-site personnel and work will occur between 5 a.m. and 7 p.m. on weekdays and Saturdays. Additional hours, including night work, will be needed to complete tasks such as continuous concrete pours and to avoid extreme temperatures. RSEP is designed for an operating life of 30 years.

QUESTION 8A. Project Location

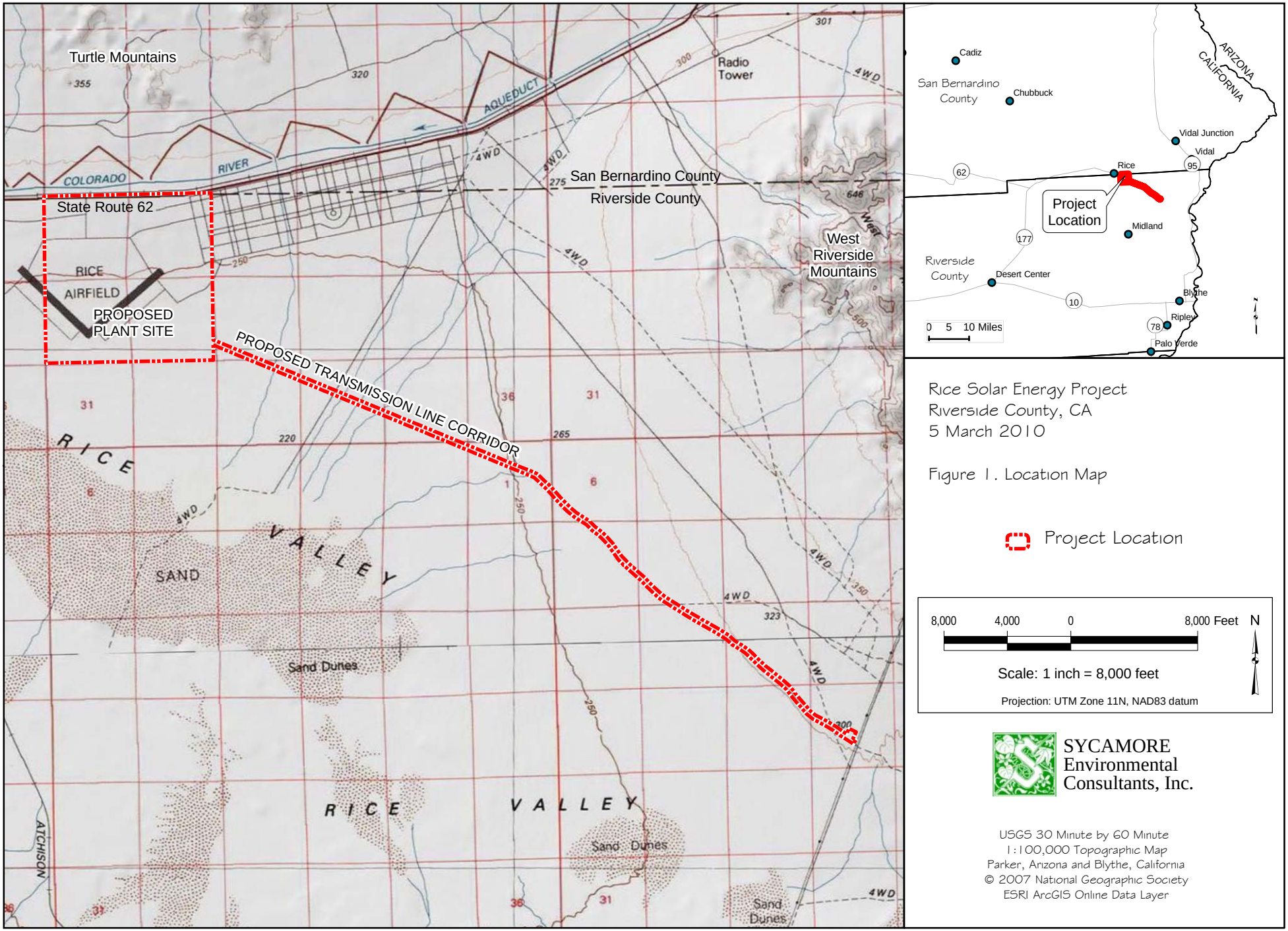
The project location is shown on Figure 1.

QUESTION 8L. Project Location: Assessor's Parcel Numbers

The RSEP is located on a 2,560-acre portion of four parcels in Riverside County totaling 3,324 acres. The four Riverside County Assessor's Parcel Numbers are listed in Table 1 below. Upon receiving project approvals, a single parcel will be created out of portions of the four parcels.

The project parcel will house the administration buildings area, heliostat field with power block, and evaporation pond areas, totaling 1,410 acres, that will be surrounded by a security fence. Areas outside the facility site but within the project parcel will not be fenced or developed or disturbed as part of the RSEP.

A 10-mile-long, 230-kilovolt (kV) generator tie-line will connect the RSEP with the existing Western Area Power Administration's Parker-Blythe transmission line. The generator tie-line will cross lands managed by the Bureau of Land Management (BLM) and a small portion of private property. Assessor's parcel numbers within the project area and land-use actions needed on each parcel are listed in Table 1.



Rice Solar Energy Project
Riverside County, CA
5 March 2010

Figure 1. Location Map

Project Location

8,000 4,000 0 8,000 Feet N

Scale: 1 inch = 8,000 feet

Projection: UTM Zone 11N, NAD83 datum

SYCAMORE Environmental Consultants, Inc.

USGS 30 Minute by 60 Minute
1:100,000 Topographic Map
Parker, Arizona and Blythe, California

ESRI ArcGIS Online Data Layer

08099RiceJD_Fig1LocationMap.mxd

Table 1. Assessor's parcel numbers.

Project Area	Existing APNs	Action Needed
Primary project area	801-070-003 801-070-004 801-100-005 801-100-006	Merge four square-mile parcels into one, four-square-mile parcel
Segment of transmission line over BLM land	--	Right of way grant from BLM
Segment of transmission line over private land	803-090-002 803-090-001	Utility easements on private properties

QUESTION 10. Project Description

Overview

Rice Solar Energy, LLC, proposes to construct, own, and operate the RSEP. The RSEP will be a solar generating facility capable of producing approximately 450,000 megawatt hours (MWh) of renewable energy annually, with a nominal net generating capacity of 150 megawatts (MW). The facility will use concentrating solar power (CSP) technology, with a central receiver tower and an integrated thermal storage system. The RSEP's technology generates power from sunlight by focusing energy from a field of sun-tracking mirrors called heliostats onto a central receiver. Liquid salt, which has viscosity and appearance similar to water when melted, is circulated through tubes in the receiver, collecting the energy gathered from the sun. The heated salt is then routed to an insulated storage tank where it can be stored with minimal energy losses. When electricity is to be generated, the hot salt is routed to heat exchangers (or steam generation system). The steam is then used to generate electricity in a conventional steam turbine cycle. After exiting the steam generation system, the salt is sent to the cold salt thermal storage tank and the cycle is repeated. The salt storage technology was demonstrated successfully at the U.S. Department of Energy-sponsored 10-MW *Solar Two* project near Barstow, California, in the 1990s.

Project Components

The RSEP conceptual site design is shown on Figure 2. The RSEP design incorporates the following principal elements:

- Heliostat field with up to 17,500 tracking heliostats, each approximately 24 feet tall by 28 feet wide, arranged in a circular array that will reflect and concentrate the sun's energy onto a tower-mounted receiver. A 1,410-acre project area will be fenced and will contain the administration area, heliostat field, and evaporation ponds.

- A concrete central tower approximately 540 feet tall, upon which is mounted an approximately 100-foot-tall receiver topped with a small maintenance crane, for an overall structure height of 653 feet.

- A liquid salt storage system featuring insulated "hot" and "cold" salt storage tanks.

- A steam turbine generator system rated at 150 MW (net).

- A 20-cell ACC to provide water-free cooling and condensing of the steam turbine exhaust.

- A 10-mile, 230-kilovolt (kV) generator tie-line to connect the RSEP with the existing Western Area Power Administration's Parker-Blythe transmission line. The new tie-line has been routed along existing dirt roads for approximately 5.4 miles and will require minimal construction of approximately 4.6 miles of single-lane dirt access road for construction and inspection. A new interconnection substation, approximately 3 acres in size, for the tie-in to the Parker-Blythe transmission line will be constructed adjacent to the existing line.

- Two on-site water wells to provide water for heliostat washing, steam cycle makeup and other process uses in an amount not expected to exceed 180 acre-feet per year.

- Three lined evaporation ponds of approximately 5 acres each to capture all process wastewater discharge from the project's water treatment system, process blowdown, and stormwater drainage from within equipment areas.

- Stormwater drainage features to channelize off-site stormwater flows from upstream of the project site, diverting off-site stormwater around the project site, and rejoining the natural flow channels to the south of the property.

- Two emergency diesel generators and associated equipment to supply emergency backup power for the safe shut-down and protection of vital equipment and facilities.

- On-site fire protection facilities, which consist of two sets of electric-motor-driven and diesel-engine-driven fire pumps and related fire detection and protection equipment.

- Various buildings for plant control room, administration offices, maintenance and storage, and crew comfort facilities.

- Physical security systems including fencing, closed-circuit television, and other means to protect against unwanted entry consistent with electric utility and Department of Homeland Security requirements.

Process Water

Raw process water will be supplied from two on-site wells. It will be treated and used for steam-cycle makeup, heliostat washing, liquid salt system testing during commissioning, boiler makeup, and domestic needs. Each well will have sufficient capacity to supply water for the plant needs throughout the expected 30-year operational life of the plant. Of the two wells, one will be the primary source and one will be the secondary source. The amount of process water used would no more than 180 acre-feet per year (afy), assuming a 37 percent operating capacity factor (3,286 hours).

LEGEND

CHAIN LINK FENCING

E ELECTRICAL TRANSMISSION LINE

OWNERSHIP BOUNDARY

NOTES

1. NORTHING AND EASTING COORDINATES BASED ON CALIFORNIA NAD83 ZONE VI COORDINATE SYSTEM.

EXISTING BERMS

TEMPORARY CONSTRUCTION PARKING

MAIN ENTRANCE

SECONDARY ACCESS (NOT PAVED)

EXISTING ARIZONA–CALIFORNIA RAILWAY

CA STATE ROUTE 62

WORKFORCE RV/TRAILER PARKING

ADMIN/SHOP

TEMPORARY LAYDOWN/CONSTRUCTION AREA AND CONSTRUCTION TRAILERS

HELIOSTAT BLDG/AREA

RICE WELLS NO. 1 & 2

EXISTING 12KV POLE

TEMP. CONST. POWER

N

0 1600 3200

1" = 1600 FT

Y=2337378.29

PERIMETER ACCESS ROAD, FENCE, AND PROJECT SITE BOUNDARY

EXISTING CONCRETE PAD

HELIOSTAT FIELD

Y=2334878.29

Y=2334472.18

℄ COLLECTOR FIELD

ACCESS ROAD

POWER BLOCK/RECEIVER

ACCESS ROAD

Y=2333708.09

℄ POWER BLOCK

Y=2332378.29

PERIMETER ACCESS ROAD, FENCE, AND PROJECT SITE BOUNDARY

PARCEL BOUNDARY

SEE SHEET SRRC-1-SK-111-002-001 FOR POWER BLOCK GENERAL ARRANGEMENT

30 AC-FT DETENTION BASIN AREA

OWNERSHIP BOUNDARY

Y=2329878.29

EVAPORATION PONDS 3 AT APPROXIMATELY 5 ACRES EACH

ELECTRICAL TRANSMISSION LINE

X=6994779.92

X=6997279.92

X=6998542.40 ℄ POWER BLOCK

X=6999779.92

X=7002279.92

PRELIMINARY NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/ TECH SPEC	ENGINEER	PEM	PROJECT MGR
G	10-06-09	ISSUED FOR REVIEW	AP	JD	PL	JD	BA	BA	BA
F	09-30-09	ISSUED FOR REVIEW	CM	JD	CM	JD	BA	BA	BA
E	08-24-09	EVAP. POND/2ND ACCESS	CM	JD	CM	JD	BA	BA	BA
D	08-03-09	ISSUED FOR REVIEW	CM	JD	CM	JD	BA	BA	BA
C	06-30-09	ISSUED FOR REVIEW	CM	JD	CM	JD	BA	BA	BA
B	06-29-09	ISSUED FOR REVIEW	CM	JD	CM	JD	BA	BA	BA
A	02-11-09	ISSUED FOR REVIEW	CM	JD	CM	JD	BA	BA	BA

PRELIMINARY STATUS — DATE — REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.

LDE

APPROVED STATUS — DATE — REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

LDE

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY: C. MAHER	
CHECKED BY: J. DAHLGREN	
LEAD DESIGNER: C. MAHER	
ENGINEER/TECH SPECIALIST: J. DAHLGREN	
PROJECT ENGINEERING MANAGER: B. ANDERS	
PROJECT MANAGER: B. ANDERS	

Zero Harm — Leadership — No Incidents — Safe Behavior

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF PE: _____ STATE: _____ LIC. NO.: _____ DATE: _____

Worley Parsons — resources & energy

SolarReserve

CLIENT/PROJECT TITLE

RICE SOLAR ENERGY, LLC
RICE SOLAR ENERGY PROJECT

CONCEPTUAL GENERAL ARRANGEMENT AND OVERALL SITE PLAN

SCALE 1"=1600' | DRAWING SIZE 11x17

WORLEYPARSONS DWG. NO. SRRC-0-SK-112-111-001 | REV G

Domestic and Sanitary Water Use

Sanitary waste streams will be generated at the administrative building near the entrance to the plant in the north and at the operations building and maintenance areas within the power block. Each area will have a kitchen and the required quantity of toilets and or showers to support the crew size. At these locations, a septic tank and leach field will be used to capture and treat the flows. Two permanent leach fields will be constructed, one near the power block and one near the administration building area at the north end of the field. When required, the septic tank (solids holding tank) will be cleaned out by a vacuum truck, and the wastes will be disposed of at a licensed facility.

The plant will include a potable water treatment system to treat raw water to potable quality water for personnel health (drinking), if necessary, and other necessary uses around the facility. The system will be sized to accommodate a maximum of 47 operations and maintenance personnel. Consumption is estimated at a maximum of 60 gallons per person per day. The rate of consumption on this basis is approximately 5 gallons per minute per hour of operation. The potable water system will discharge to the wastewater evaporation ponds.

Diesel fire water pumps will be on-site and supplied by on-site water tanks located adjacent to the aboveground diesel storage tanks. The water source will supply water in the event of an emergency.

Construction Water

During construction of the facilities, water will be required for soil moisture conditioning during the earthmoving operations and for dust control. During the grading and heavier site disturbance portion of the project (expected to be 12 months), water use is expected to be approximately 35 af per month (on average). During the remainder of construction (expected to be 15 months), water use is expected to be approximately 24 af per month (on average). The average water use over the 30-month construction period would be approximately 29 af per month, or about 780 afy.

Wastewater Collection, Treatment, Discharge, and Disposal

General plant drains will collect containment area washdown, sample drains, and drainage from facility equipment drains. Water from these areas will be collected in a system of floor drains, hub drains, sumps, and piping, and then routed to the wastewater collection system. Drains that potentially could contain oil or grease will first be routed through an oil/water separator. The aggregate discharge from this waste stream will be sent to double-lined evaporation ponds, where the water will be retained on-site to evaporate, leaving solid waste constituents behind. The evaporation ponds will consist of three ponds, 5 acres each, located at the southern end of the heliostat field. Solids will be trucked off-site to a designated licensed disposal facility. A draft Report of Waste Discharge with additional information regarding collection, treatment, discharge, and disposal is included in Volume 2 of the project's Application for Certification by the California Energy Commission.

Stormwater

Off-site stormwater flows originate from an area north of SR 62, the Arizona and California Railroad, and the Colorado River Aqueduct. Because the railroad and aqueduct parallel the highway (east-west), small dikes have been constructed to control the flow of water across these features (north to south). The dikes direct the off-site flows from the north to specific channels/culverts over the aqueduct and under the railroad. Two of these channels are located near the project site.

The stormwater runoff from these local watersheds flows over an inverted siphon of the aqueduct, under the railroad, and then over SR-62 at small "dips" in the roadway. For site development, small ditches will be constructed on the outside of the site, along the perimeter of the north portion of the heliostat field, to direct these off-site flows around the outside of the site. The ditches, along with an elevated perimeter road, will be the features that redirect the off-site flows around the heliostat fields, much as the Army constructed two dikes in the early 1940s to direct off-site flows around Rice Army Airfield. The ditches have been sized to accommodate 100 percent of the off-site flows expected to drain to them, although a portion of the off-site flows appear to continue to be diverted by the small dikes constructed as part of the airfield.

On-site stormwater runoff in the heliostat field will be allowed to sheet flow along its current drainage pattern to the south end of the heliostat field. At this location, an expansive and shallow detention basin (approximately 30 af) will be constructed to detain any increase in storm flows and to provide a location for sediment control. The detention area will attenuate the post-development 100-year, 24-hour storm event runoff and discharge at the predevelopment 100-year, 24-hour storm event flow rate. A Conceptual Project Drainage Plan, with stormwater calculations used to size the stormwater detention basin, is included in Volume 2 of the project's Application for Certification by the California Energy Commission.

Construction

Construction of the generating facility, from site preparation and grading to commercial operation is expected to take place over 30 months, starting in the first quarter of 2011. During construction, approximately 1,504 acres of land associated with the plant will be disturbed. Nominal grading will occur for the construction of the power block, which will be graded to create a generally uniform elevation for construction of the plant power island facilities, the roads, and the detention and evaporation pond areas. Additionally, grading will occur for the off-site parking, the off-site workforce trailer and RV park site, the construction office and lay down area, approximately 1 acre of disturbance for the electrical interconnection substation (to connect the 12-kV generator tie-line to the site), a band of disturbance 40 feet beyond the security fence for slope grading and perimeter ditch construction.

During construction, installation of the transmission structures and conductors will require disturbance of less than 1 acre in aggregate. This area includes several pull sites and a few splicing sites. However, the generator tie-line construction will require creation of a 12-foot-wide dirt access road for 4.6 miles of the line between the project fenceline and Rice Valley Road, for approximately 7 acres of disturbance.

Any grading in the heliostat field will be completed with cuts and fills of less than 6 inches. Vegetation in the heliostat area will be cut or removed only as needed to allow installation of the heliostats. The root structure of vegetation will be allowed to remain to enhance soil stability and to facilitate re-growth.

Surface water impacts are anticipated to be related primarily to short-term construction activities and would consist of increased turbidity from erosion of newly excavated or placed soils. Activities such as grading can potentially destroy habitat and increase rates of erosion during construction. Additionally, construction materials could contaminate runoff or groundwater if not properly stored and used. Compliance with engineering and construction specifications, following approved grading

and drainage plans, and adhering to proper material handling procedures will ensure effective mitigation of these short-term impacts. Best management practices (BMPs) for erosion control will be implemented. Additionally, erosion and sediment controls, surface water pollution prevention measures, and other BMPs will be developed and implemented for both construction and operational phases. These plans will be prepared in accordance with local agency requirements and the National Pollutant Discharge Elimination System (NPDES) construction permit issued by the SWRCB.

To qualify for the NPDES statewide General Permit for Stormwater Discharges Associated with Construction Activity (General Construction Permit), RSE will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) prior to construction to prevent the off-site migration of sediment and other pollutants, and to reduce the effects of runoff from the construction site to off-site areas. A draft SWPPP is included in Volume 2 of the project's Application for Certification by the California Energy Commission.

QUESTION 11. Impacts

Ephemeral Washes

Approximately 149.169 acres of ephemeral washes were mapped within the primary project site, and 27.320 acres of ephemeral washes were mapped within the transmission line corridor (see Table 5 and Figure 4 in the attached Wetland Delineation Report). Based on the field data, each ephemeral wash was assigned a size category class between 1 and 5 (Table 2). All of the ephemeral washes in the project area flow only in response to storm events. No perennial or intermittent streams occur within the project area.

Table 2. Channel size class categories.

Category Name	Width Range (ft)
Category 1	1 to <5
Category 2	>5 to <10
Category 3	>10 to <20
Category 4	>20 to <35
Category 5	>35

The beds of most Category 1, 2, and 3 ephemeral channels are devoid of vegetation. Category 4 and 5 ephemeral channels typically contained scattered herbaceous and scrub species within the channel bed. Species typically observed in the low flow channel of Category 4 and 5 ephemeral channels includes creosote bush, bursage, burrobrush, and plantain.

Temporary and permanent impacts to ephemeral washes resulting from the project are shown in Table 3. Impacts were calculated for each drainage category by first determining the lengths of the washes impacted by each project feature and then multiplying by the average width of each drainage category. The project is still in the preliminary design phase, which necessitated the use of conceptual design figures for the impact calculations.

Table 3. Permanent and temporary impacts to ephemeral washes from project features.

Project Feature	Category 1		Category 2		Category 3		Category 4		Category 5		Total	
	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)
Permanent Impacts												
Power Block	8,685	0.498	857	0.148	0	0.000	0	0.000	0	0.000	9,542	0.646
Admin/Shop Bldgs.	641	0.037	0	0.000	0	0.000	0	0.000	0	0.000	641	0.037
Admin/Shop Parking	1,102	0.063	0	0.000	0	0.000	0	0.000	0	0.000	1,102	0.063
Heliostats (42-inch-diameter base)	1,929	0.111	367	0.063	75	0.026	0	0.000	0	0.000	2,372	0.200
Heliostat Bldg./Area	2,692	0.154	0	0.000	0	0.000	0	0.000	0	0.000	2,692	0.154
Heliostat Bldg./Area Parking	1,315	0.075	0	0.000	0	0.000	0	0.000	0	0.000	1,315	0.075
Power Block Access Roads (18–24 ft wide)	3,285	0.189	624	0.107	45	0.016	0	0.000	0	0.000	3,953	0.312
Perimeter Access Road (24 ft wide)	9,570	0.549	1,154	0.199	82	0.028	216	0.136	0	0.000	11,023	0.912
Heliostat Maintenance Paths (10 ft wide)	109,366	6.277	24,341	4.191	107	0.037	68	0.043	0	0.000	133,882	10.548
Main Access Road (24 ft wide; paved)	718	0.041	0	0.000	0	0.000	0	0.000	0	0.000	718	0.041
Secondary Access Road (24 ft wide; not paved)	119	0.007	0	0.000	0	0.000	0	0.000	0	0.000	119	0.007
30 ac-ft Detention Basin	28,787	1.652	7,261	1.250	922	0.317	0	0.000	0	0.000	36,970	3.219
Evaporation Ponds	15,707	0.901	2,590	0.446	653	0.225	0	0.000	0	0.000	18,951	1.572
Interconnect Substation (265 ft x 400 ft; 2.43 ac)	2,631	0.151	0	0.000	0	0.000	0	0.000	0	0.000	2,631	0.151
T-Line Access Road (12 ft wide)	9,477	0.544	2,774	0.478	277	0.096	56	0.035	24	0.023	12,608	1.176
Subtotal Permanent Impacts	**196,024**	**11.249**	**39,969**	**6.882**	**2,162**	**0.745**	**339**	**0.214**	**24**	**0.023**	**238,519**	**19.113**

Project Feature	Category 1		Category 2		Category 3		Category 4		Category 5		Total	
	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)	Length (ft)	Area (ac)
Temporary Impacts												
Heliostat Maintenance Paths (20-ft buffer)	397,829	22.832	86,146	14.832	9,989	3.440	482	0.304	0	0.000	494,445	41.408
Power Block Access Roads (20-ft buffer)	2,901	0.166	760	0.131	76	0.026	0	0.000	0	0.000	3,737	0.323
Perimeter Access Road (20-ft buffer)	12,757	0.732	1,515	0.261	180	0.062	315	0.199	0	0.000	14,767	1.254
Temporary Laydown/Construction Area/Trailers	10,029	0.576	0	0.000	0	0.000	0	0.000	0	0.000	10,029	0.576
Temporary Construction Parking	6,127	0.352	0	0.000	0	0.000	0	0.000	0	0.000	6,127	0.352
T-Line Access Road (20-ft buffer)	31,450	1.805	9,467	1.630	897	0.309	184	0.116	81	0.076	42,080	3.936
Subtotal Temporary Impacts	**461,093**	**26.463**	**97,888**	**16.854**	**11,142**	**3.837**	**981**	**0.619**	**81**	**0.076**	**571,184**	**47.849**
Total Permanent and Temporary Impacts	**657,117**	**37.712**	**137,857**	**23.736**	**13,303**	**4.582**	**1,320**	**0.833**	**105**	**0.099**	**809,702**	**66.962**

Construction activities, including vegetation clearing and grading, would result in alteration, rerouting, fill, and loss of some of the existing ephemeral washes within the heliostat field. Features most likely to be affected are the small, weakly expressed ephemeral washes that lack a defined bed and bank. Following construction, annual rainwater will flow freely across the entire site with the exception of the power block areas, the substation, and storage building. Water diverted by the diversion berms will be discharged back into the ground downstream of the power block corners. As needed during operations, accumulated sediment and debris along the perimeter fence will be removed to ensure fence integrity and to maintain natural drainage across the site.

Construction of the power blocks, substation, and administration building would result in the permanent loss of ephemeral washes within the heliostat field and power block areas. Additional construction activities such as the construction of the generator tie-line access road and placement of additional power poles would result in permanent and temporary disturbances and a small amount of additional impacts to the washes in the project area. For the portion of the generator tie-line route that runs parallel to Rice Valley Road, it is assumed that the transmission towers would not be sited in wash channels and that, therefore, the project would have no impact on these channels.

Operation and maintenance of the heliostat mirrors would require vehicle access to wash the mirrors on a regular basis. The impact analysis assumed that heliostat maintenance paths will be 10 feet wide. Using a conceptual heliostat array layout, the maintenance paths were mapped and channel crossings were identified. The permanent impacts to the channel crossings were assumed to be the 10-ft width of the maintenance path. Temporary impacts were conservatively estimated to include an area 20 feet upstream and 20 feet downstream at each channel crossing, for a maximum temporary construction zone of 40 feet. Calculation of impacts resulting from other roads and paths within the project area followed this same methodology.

Concrete pads will be installed at each mirror in the heliostat array. Each concrete pad will be approximately 42 inches in diameter. A 10-ft-wide by 18-ft-long temporary impact zone was assumed around each concrete pad to allow access by the vibratory pile driver that will install the central mirror poles. It was assumed that the pile driver and cranes used to install the poles and mirrors would access each mirror location via the 10-ft maintenance paths discussed above.

Construction and operation of the facility are not likely to result in a substantial loss of ephemeral washes or a change in the drainage patterns or hydrology of the site because most washes are expected to naturally reform. The temporary and permanent loss of ephemeral drainages is therefore not considered to have a significant impact on biological resources. Construction and operation may require permits from the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) and CDFG, and these permits may have special conditions. Replacement of lost ephemeral wash habitat is typically not required. BMPs, as listed in the project SWPPP, will be implemented during project construction and operation.

Vegetation

The majority of the vegetation in the project area can be categorized in two similar biological communities, both containing creosote bush as a common shrub. These include *Larrea tridentata – Ambrosia dumosa* Shrubland and *Ambrosia dumosa* Shrubland. Two small areas of smoke tree

woodland community (*Psorothamnus spinosus* Woodland) occur where bajada runoff is diverted and redirected upstream of the Colorado Aqueduct to pass over a flume in the aqueduct and under a railroad trestle north of Highway 62 onto the project site. Detailed descriptions of the three biological communities are included in the attached Supplemental Data Response for the Botanical Inventory Report. Acreages of biological communities within the project area are listed in Table 4.

Table 4. Biological communities in proposed plant site and T-line corridor.

Biological Community	Common Name	Acreage
Larrea tridentata – Ambrosia dumosa Shrubland	Creosote bush - white bursage scrub	2571.49
Ambrosia dumosa Shrubland	White bursage scrub	115.58
Psorothamnus spinosus Woodland	Smoke tree woodland	5.17

Approximately 1,504 acres (2.35 square miles) of the Sonoran Creosote Bush Scrub Community type could be displaced by project facilities, disturbed by construction, or permanently lost by ongoing, long-term, disturbance associated with operations and maintenance of facilities and the need to reduce standing vegetation due to fire hazard.

Temporary Construction Impacts

Temporarily disturbed areas associated with the project site and generator tie-line will be rehabilitated and revegetated as appropriate after construction. The corridor to be disturbed by the generator tie-line construction is not expected to exceed 50 feet in width. All practicable measures to avoid sensitive resources (e.g., mapped special-status plant species) will be taken during construction to reduce impacts to the maximum degree possible.

Arid region soils typically do not have substantial soil horizon development, and soils in the project area are sandy and rocky, with little organic matter. However, soil mycorrhizal fungi, seeds, or rhizomes may be present to aid in rehabilitation. Therefore, the top six inches of topsoil will be salvaged and either stockpiled within the corridor until it can be re-spread following construction. Decompacting and/or scarifying (e.g., imprinting) the re-spread topsoil area prior to seeding may be required. The disturbed corridor will then be seeded with native species such as creosote bush and white bursage, or other species native to the area. Target vegetation density and composition will be comparable with the surrounding landscape. Seeding will be timed to coincide with seasonal rains (typically late fall and early spring) but desert rainfall patterns are unpredictable. If rainfall is low, germination will be poor, and re-seeding may be required.

Plant Closure and Site Rehabilitation

Over the long-term, once the RSEP facilities are no longer needed, the structures will be removed and the project area will be rehabilitated to approximate preconstruction conditions. A formal rehabilitation plan for the RSEP facility closure will be developed by Rice Solar Energy, LLC, and submitted to the BLM, USFWS, CDFG, and the CEC at least one year prior to facility closure.

Mitigation elements for sensitive natural community habitats will be addressed as a component of the desert tortoise habitat mitigation effort.

The RSEP facility closure rehabilitation plan will follow currently accepted site rehabilitation practices in use by BLM, USFWS, and CDFG or other appropriate resource agencies, at the time of project closure, and it is expected to include the following sections and details: (1) goals and objectives of the rehabilitation; (2) a description of methods employed to achieve the rehabilitation goals and objectives; (3) success criteria used to determine if the rehabilitation is successful; (4) a monitoring and maintenance program, including details on remedial measures; (5) noxious weed control plan; (6) a description of annual reporting; and (7) a rehabilitation implementation and monitoring timeline and schedule of planned activities. The scope of this plan will be proportionate to the magnitude of the expected impact.