

GRANT AMENDMENT REQUEST FORM (GARF)

CEC-277 (Revised 02/13)

CALIFORNIA ENERGY COMMISSION



Original Agreement #	PIR-11-005	Amendment #	1
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Division	Agreement Manager:	MS-	Phone
ERDD	Rizaldo Aldas	43	916-327-1417

Recipient's Legal Name	Federal ID Number
Sacramento Municipal Utility District	94-6001157

Revisions: (check all that apply)		
<input type="checkbox"/> Term Extension	New End Date: 6/30/2014	Include revised schedule and complete items A, B, C, & F below.
<input type="checkbox"/> Budget Augmentation	Amendment Amount: \$ 0	Include revised budget and complete items A, B, C, D & F below.
<input checked="" type="checkbox"/> Budget Reallocation		Include revised budget and complete items A, B, C, & F below.
<input checked="" type="checkbox"/> Scope of Work Revision		Include revised scope of work and complete items A, B, C, E & F below.
<input type="checkbox"/> Change in Project Location or Demonstration Site		Include revised scope of work and complete items A, B, C, E & F below.
<input type="checkbox"/> Novation/Name Change of Prime Contractor/Recipient		Include novation documentation and complete items A, B, C, & F below.
<input type="checkbox"/> Terms and Conditions Modification		Include applicable exhibits with bold/underline/strikeout and complete items A, B, C, & F below.

A) Business Meeting Information**Business Meeting approval is not required for the following types of Agreements:**

ARFVTP agreements under \$75K delegated to Executive Director.

Proposed Business Meeting Date	12/11/2013	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
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Business Meeting Presenter	Rizaldo Aldas	Time Needed:	5 minutes
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Please select one list serve. Select

Agenda Item Subject and Description

Possible approval of this amendment with the Sacramento Municipal Utility District to allow the implementation of Phase II of the scope of work, which involves a solar energy project. The project team has completed the preparatory requirements needed to move forward with Phase II, including environmental review. This agreement will fund the demonstration and deployment of renewable energy technologies that will generate a total capacity of up to 5.2 megawatts from solar and biomass resources. This agreement provides cost-share for the Recipient's American Recovery and Reinvestment Act (ARRA) of 2009 award, which exceeded \$5 million dollars.

B) List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)

Legal Company Name:	Budget
Conergy	\$ 0
California Bioenergy	\$ 0
MT-Energie USA, Inc.	\$ 0
	\$
	\$
	\$
	\$
	\$
	\$
	\$

C) List all key partners: (attach additional sheets as necessary)

Legal Company Name:

Sacramento Regional County Sanitation District

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D) Budget Information			
Funding Source	Funding Year of Appropriation	Budget List No.	Amount
			\$
			\$
			\$
			\$
			\$
			\$
R&D Program Area:	EGRO: Renewables	TOTAL:	\$
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

E) California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
 Yes (skip to question 2) No (complete the following (PRC 21065 and 14 CCR 15378)):

2. If Agreement is considered a "Project" under CEQA:
 a) Agreement **IS** exempt. (Attach draft NOE)
 Statutory Exemption. List PRC and/or CCR section number: _____
 Categorical Exemption. List CCR section number: _____
 Common Sense Exemption. 14 CCR 15061 (b) (3)
 Explain reason why Agreement is exempt under the above section:

b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)
 Check all that apply:
 Initial Study Environmental Impact Report
 Negative Declaration Statement of Overriding Considerations
 Mitigated Negative Declaration

The lead agency (the city of Sacramento) has prepared a Mitigated Negative Declaration for the activities funded by this agreement (see item #3 below). The Energy Commission's CEQA findings for the project are included in the attached resolution (see item #4 below).

F) The following items should be attached to this GARF (as applicable)

1. Exhibit A, Scope of Work	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Attached
2. Exhibit B, Budget Detail	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Attached
3. CEQA Documentation (including Mitigated Negative Declaration)	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Attached
4. Resolution	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Attached
5. Novation Documentation	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Attached
6. CEC 105, Questionnaire for Identifying Conflicts		<input checked="" type="checkbox"/> Attached

Agreement Manager _____ Date _____ Office Manager _____ Date _____ Deputy Director _____ Date _____

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TECHNICAL TASK LIST

Task #	CPR	Task Name
1	N/A	Administration
2	X	Simply Solar PV Generation Facility
3	X	Co-Digestion Facility
4	X	Anaerobic Digestion System for the New Hope Dairy Farm
5	X	Anaerobic Digestion System for the Van Warmerdam Dairy Farm

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Elaine Sison-Lebrilla Sacramento Municipal Utility District (SMUD)		
2	Kathleen Ave (SMUD)	<u>Conergy</u>	<u>Sutter's Landing Park</u>
3	Kathleen Ave (SMUD)	Sacramento Regional County Sanitation District (SRCSD)	Western Water
4	Valentino Tiangco (SMUD) , Marco Lemes (SMUD)	ABEC New Hope LLC	California BioEnergy, New Hope Dairy
5	Valentino Tiangco (SMUD), Marco Lemes (SMUD)	Maas Energy Works, Inc.	Four Creeks Engineering Inc., Environmental Fabrics Inc., Martin Machinery LLC, Van Warmerdam Dairy

GLOSSARY

Specific terms and acronyms used throughout this scope of work are defined as follows:

Term/ Acronym	Definition
AD	Anaerobic Digester
CHP	Combined Heat and Power
CEQA	California Environmental Quality Act
CPM	Commission Project Manager
CPR	Critical Project Review
Energy Commission	California Energy Commission
kW	kilowatt

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Term/ Acronym	Definition
MW	Megawatt
NOx	Nitrogen Oxides
PAC	Project Advisory Committee
PIER	Public Interest Energy Research
PV	Photovoltaic
RD&D	Research, Development and Demonstration
SMUD	Sacramento Municipal Utility District
SRCSD	Sacramento Regional County Sanitation District

Problem Statement:

The demand for renewable energy is high due to state renewable portfolio standards and climate change initiatives. The Recipient (the Sacramento Municipal Utility District) must develop renewable generation locally in order to reach its goal of obtaining a renewable energy supply of 30% by 2020. However, there are several barriers to developing renewable generation, including local opposition to transmission routes, lengthy and complicated permitting processes, and high capital costs.

Renewable technologies such as solar photovoltaic (PV) systems and anaerobic digestion systems using local biomass can supply local load and do not need costly transmission lines, if deployed as distributed generation in sizes that can be integrated on the distribution grid. However, there is a need for research, development, and demonstration (RD&D) to quickly develop and deploy renewable energy technologies at the community level.

Goal(s) of the Agreement:

The goal of this Agreement is to demonstrate and deploy renewable energy technologies that will generate a total capacity of up to 5.2 megawatts (MW), bringing clean, reliable, and affordable energy technologies to the marketplace and enhancing electricity customers' energy choices. Agreement activities will involve demonstration of a solar PV system, a co-digestion facility, and two anaerobic digesters through collaborative partnerships. The projects will use existing infrastructure, otherwise unusable land, and locally available waste biomass resources with minimal impact to the existing distribution system and minimal grid interconnection costs. Because of the size of the projects, distribution system upgrades will not be necessary.

This Agreement will help accelerate widespread commercialization of renewable energy technologies across the United States, diversifying the nation's electricity supply options while improving the environment. The projects have the potential to generate a short-term economic benefit in California of roughly 200 jobs and \$9 million of output in the

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form of wages, salaries and other gross state products through indirect and induced activities.¹

Objectives of the Agreement:

The objectives of this Agreement are to:

- Install up to 5.2 MW of renewable energy technologies and generate up to 37 gigawatt-hours per year of electricity;
- Reduce carbon dioxide emissions of up to 24,000 tons/year;
- Meet or exceed the California Air Resources Board's 2007 air emission standards, particularly for nitrogen oxides;
- Use excess heat by employing combined heat and power (CHP) applications;
- Lower levelized costs of electricity for solar PV and anaerobic digesters; and
- Create over 200 jobs and an additional \$9 million in wages, salaries and other gross state products.

Two-Phased Agreement

This Agreement will be conducted in two phases. **Phase I** involves Tasks 1 through 5 (please note that Task 2 activities in Phase I will involve only the selection of a solar PV system project developer, execution of a subcontract with the project developer, and CEQA compliance activities). **Phase II** involves the design, construction, grid interconnection, start-up, commissioning, performance testing, and monitoring activities for the Simply Solar PV system (Task 2).

~~The Contractor will act as the lead agency under CEQA with respect to the PV system and will prepare all documents necessary to comply with CEQA for Phase II. The Energy Commission will consider approval of Phase II funding at a Commission Business Meeting. Neither the Contractor nor any of its subcontractors are authorized to spend funds or perform any work on Phase II activities until the Energy Commission finds that the project complies with CEQA and approves Phase II at a Commission Business Meeting.~~

Neither party is bound under this Agreement regarding Phase II work until the Contractor **Recipient** completes the CEQA process and the Energy Commission authorizes the Contractor **Recipient** to perform Phase II work. The Recipient will bear the cost of all CEQA compliance, though the cost may be considered match funding under this Agreement.

¹<http://www.strategieconomicresearch.org/AboutUs/StimCalcTool.pdf>

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TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a “Kick-Off” meeting with the Commission Project Manager, the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Commission Project Manager to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the Commission Project Manager will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include, but not be limited to, the following:

- Discussion of the terms and conditions of the Agreement
- Discussion of Critical Project Review (Task 1.2)
- Match fund documentation (Task 1.6)
- Permit documentation (Task 1.7)

The technical portion of the meeting shall include, but not be limited to, the following:

- The Commission Project Manager’s expectations for accomplishing tasks described in the Scope of Work
- An updated Schedule of Products
- Discussion of Progress Reports (Task 1.4)
- Discussion of Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Discussion of the Final Report (Task 1.5)

The Commission Project Manager shall designate the date and location of this meeting.

Recipient Products:

- Updated Schedule of Products (no draft)
- Updated List of Match Funds (no draft)
- Updated List of Permits (no draft)

Commission Project Manager Product:

- Kick-Off Meeting Agenda (no draft)

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Task 1.2 Critical Project Review (CPR) Meetings

The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Commission Project Manager and as shown in the Technical Task List above. However, the Commission Project Manager may schedule additional CPRs as necessary, and any additional costs will be borne by the Recipient.

Participants include the Commission Project Manager and the Recipient and may include the Commission Grants Officer, the Public Interest Energy Research (PIER) Program Team Lead, other Energy Commission staff and Management as well as other individuals selected by the Commission Project Manager to provide support to the Energy Commission.

If DOE is conducting similar meetings, the Recipient shall notify and invite the Commission project manager to participate, either by teleconference or by actual meeting attendance. The DOE required meetings can be used in place of the Commission's CPR meetings, at the discretion of the Commission project manager.

The Commission Project Manager shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. One of the outcomes of this meeting will be a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see the Terms and Conditions).
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

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- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the Commission Project Manager and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.
- Recipient will provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to the project status. This includes copies of project performance reviews on Recipient work and summaries and results of project review meetings with DOE.

Commission Project Manager Products:

- Agenda and a list of expected participants (no draft)
- Schedule for written determination (no draft)
- Written determination(no draft)

Recipient Product:

- CPR Report(s) (no draft)
- DOE correspondence and reporting (no draft)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement. If DOE is conducting a similar final meeting, the Recipient shall notify and invite the Commission project manager to participate, either by teleconference or by actual meeting attendance. The DOE required meeting can be used in place of the Commission's final meeting, at the discretion of the Commission Project Manager. However, all items listed in this task will need to be covered in the meeting.

The Recipient shall:

- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the Commission Project Manager. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the Commission Project Manager.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved,

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findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The Commission Project Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Project Manager and the Grants Officer about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options)
- Energy Commission's request for specific "generated" data (not already provided in Agreement products)
- Need to document Recipient's disclosure of "subject inventions" developed under the Agreement
- "Surviving" Agreement provisions, such as repayment provisions and confidential Products
- Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.
- Copies of all correspondence and reports discussing DOE's findings on the project, and future disposition of the project, if applicable. When directed by the Commission Project Manager, recipient will provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to project performance.

Products:

- Written documentation of meeting agreements
- Schedule for completing closeout activities
- DOE correspondence on project findings and results

Task 1.4 Quarterly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the research objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

With Commission Project Manager approval, the Recipient can submit a DOE Progress Report in lieu of the required Commission report if contains the information listed in Attachment 1 of the Terms and Conditions.

The Recipient shall:

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- Prepare Quarterly Progress Reports which summarize all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the Commission Project Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Exhibit A, Attachment A-2.
- Unless otherwise directed by the Commission project manager, each Progress Report must contain any reports made to DOE, including summaries of meetings with DOE, as it that relates to the project outcome and performance. Include names and contacts of DOE representatives.

Product:

- Quarterly Progress Reports
- Copies of DOE reporting and meeting summaries (no draft)

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving its goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The final report shall describe the following at a minimum: a) original purpose, approach, activities performed, results and conclusions of the work done under this Agreement; b) how the project advanced science and technology to the benefit of California's ratepayers and the barriers overcome; c) assessment of the success of the project as measured by the degree to which goals and objectives were achieved; d) how the project supported California's economic recovery in the near term and number of jobs created or sustained; e) how the project results will be used by California industry, markets and others; f) projected cost reduction impact and other benefits resulting from the project; g) discuss the project budget, including the total project cost and all the funding partners and their cost share; h) discuss how the Energy Commission funding was spent on the project, including any unique products and benefits; i) observations, conclusions and recommendations for further RD&D projects and improvements to the PIER project management process.

If a final report is required by DOE, the Recipient will include a copy of it along with the Energy Commission's final report requirements. In addition, the Recipient shall submit the draft final DOE report to the Energy Commission for review at the same time it submits it to DOE.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the

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Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

The Recipient shall:

- Provide a draft copy of the Final Report including a copy of the draft submitted to the U.S. DOE in response to the American Recovery and Reinvestment Act Funding Opportunity Notice for which an award was received. The Final Report must be completed on or before the end of the Agreement Term.
- Submit written correspondence from DOE regarding acceptance of the final report.

Products:

- Draft Final Report, including a copy of the draft report submitted to DOE
- Final Report, including a copy of the final report submitted to DOE
- Written correspondence from DOE regarding acceptance of final report (no draft)

Task 1.6 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the PIER budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of PIER funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Project Manager at least 2 working days prior to the kick-off meeting. The letter needs to identify the following at a minimum:
 - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
 - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.

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- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Commission Project Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Project Manager within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR.

Products:

- A letter regarding match funds (no draft)
- Copy(ies) of each match fund commitment letter(s) (no draft)
- Letter(s) for new match funds (if applicable) (no draft)
- Letter that match funds were reduced (if applicable) (no draft)

Task 1.7 Identify and Obtain Required Permits

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the PIER budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditures for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Project Manager at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions
 - or lead agencies

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- The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the Commission Project Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Project Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Project Manager within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required (no draft)
- A copy of each approved permit (if applicable) (no draft)
- Updated list of permits as they change during the term of the Agreement (if applicable) (no draft)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable) (no draft)

TECHNICAL TASKS

Products not requiring a draft version are indicated by marking “no draft” after the product name.

TASK 2 Simply Solar PV Generation Facility

The goal of this task is to install an approximately 1.5 MW PV or concentrating PV system that will meet many of the goals of the Recipient’s former Sacramento Solar Highways Project, which was cancelled due to economic infeasibility and insufficient market response to the project’s Request for Offers. The new community-scale solar facility will be installed on disturbed and marginal publicly-owned land near the load center of the region serviced by SMUD. The facility will have a high degree of public visibility and educational/ aesthetic value. The Recipient will solicit a private partner to site, design, construct, own, operate, and purchase power from the facility. The Recipient will offer its 2011 or 2010 Feed-in Tariff rates for the power, depending on the characteristics of the project. The Recipient will also supply two Satcon Equinox 500kW inverters to help offset project costs.

The Recipient shall:

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- Prepare a detailed *Project Plan and Timeline*.
- Conduct a solicitation for the project developer and enter into a subcontract for the design, construction, ownership, and operation of the PV generation facility.
- Send the Commission Project Manager a *Subcontract Completion Notification Letter* within five days of entering into the subcontract. The letter will summarize the subcontract's provisions.
- Conduct a review of the project under CEQA and prepare any documents required by CEQA.
- Send the Project Manager one or more *CEQA Review Notification Letters* within five days of completion of the CEQA review and/or any environmental documents required by CEQA. The letter must be accompanied by any environmental documents prepared in compliance with CEQA.
- Obtain permits required for the project.
- Prepare a detailed design of the PV system, including all installation and grid interconnection requirements.
- Construct the PV system.
- Perform grid interconnection activities.
- Send the Project Manager a *PV System Construction and Interconnection Notification Letter* within five days of completion of the PV system construction and grid interconnection.
- Prepare a *Task 2 Test Plan* that includes but not be limited to:
 - A description of the PV system to be tested
 - A rationale for why the tests are needed
 - Test objectives and technical approach
 - A candidate test matrix showing the operating conditions and PV system to be tested
 - A description of the equipment and instrumentation required to conduct the tests
 - A description of test procedures, including parameters to be varied, variation ranges to be tested, parameters to be measured and the instrumentation used to measure them, calibration procedures to be used including calibration intervals, and data sheets to be completed
 - A description of the data analysis procedures
 - A description of the quality assurance procedures
 - Contingency measures to be considered if test objectives are not met
- Perform testing and monitoring activities based on the Test Plan.
- Perform start-up and commissioning activities.
- Prepare a *Technology Transfer and Commercialization Plan Report*.
- Perform technology transfer activities.
- Prepare a *Task 2 Report* that includes but is not limited to: system design and equipment specifications; project test results; solar resource and output monitoring results; and a summary of economic performance, jobs created for installation and maintenance activities, and greenhouse gas reductions.
- Participate in a CPR and prepare a *CPR Report* per Task 1.2.

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Products:

- Detailed Project Plan and Timeline (no draft)
- Subcontract Completion Notification Letter
- CEQA Review Notification Letter(s) and environmental documents (no draft)
- PV System Construction and Interconnection Notification Letter (no draft)
- Task 2 Test Plan
- Technology Transfer and Commercialization Plan Report (no draft)
- Task 2 Report
- CPR Report

TASK 3 Co-Digestion Facility

The goal of this task is to implement a permanent co-digestion facility for fats, oil, grease, and liquid food processing waste with sewage at the Sacramento Regional Wastewater Treatment facility. These materials will be injected directly into an existing digester at the treatment plant and co-digested with sewage sludge. The biogas generated by this activity will be treated and fed to the SMUD-owned Cosumnes combined cycle power plant, which has an estimated power recovery of up to 3 MW.

The Recipient shall:

- Prepare a detailed *Project Plan and Timeline*.
- Complete a subcontract with the Sacramento Regional County Sanitation District (SRCSD) that will require the SRCSD to perform the following activities:
 - Prepare and issue a solicitation for the design and construction of the co-digestion facility.
 - Award one or more contracts for the design and construction of the facility.
 - Obtain required permits.
 - Design and construct the facility.
 - Develop and document operating guidelines.
 - Prepare a draft and final *Test Plan* that includes but not be limited to:
 - A description of the digester system to be tested
 - A rationale for why the tests are needed
 - Test objectives and technical approach
 - A candidate test matrix showing the operating conditions and digester system to be tested
 - A description of the equipment and instrumentation required to conduct the tests
 - A description of test procedures, including parameters to be varied, variation ranges to be tested, parameters to be measured and the instrumentation used to measure them, calibration procedures to be used including calibration intervals, and data sheets to be completed
 - A description of the data analysis procedures
 - A description of the quality assurance procedures
 - Contingency measures to be considered if test objectives are not met

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- Conduct plant start-up and commissioning activities.
- Enter into contracts with feedstock suppliers.
- Conduct an open house and press event.
- Monitor plant operation.
- Prepare a test report to be included in the Recipient's Task 3 Report.
- Send the Project Manager a *Construction Completion Notification Letter* and a *Commencement of Start-Up and Commissioning Notification Letter* within five days of the construction completion and commencement of start-up and commissioning activities.
- Document the jobs created for installation and maintenance of the co-digestion facility.
- Notify the Energy Commission in writing when a planned co-digestion facility press events has taken place; the notification must include a summary of the press event.
- Prepare a *Technology Transfer and Commercialization Plan*.
- Prepare a *Task 3 Report* that includes a discussion of: system design and construction, operating guidelines, test results, economic performance, jobs created, and greenhouse gas reductions.
- Participate in a CPR and prepare a *CPR Report* per Task 1.2.

Products:

- Project Plan and Timeline (no draft)
- Test Plan developed under the SRCSD subcontract
- Construction Completion Notification Letter (no draft)
- Start-Up and Commissioning Notification Letter (no draft)
- Notification letter documenting the co-digestion facility press event (no draft)
- Technology Transfer and Commercialization Plan (no draft)
- Task 3 Report
- CPR Report

TASK 4 Anaerobic Digestion System for the New Hope Dairy Farm

The goal of this task is to install an anaerobic digestion system at the New Hope Dairy Farm in Galt, California, which has over 1200 dairy cows. The biogas produced from the farm will be fed to a 450-kilowatt engine genset for a CHP application that will comply with the California Air Resources Board's 2007 distributed generation emissions standards.

The Recipient shall:

- Enter into an agreement with the subcontractor (ABEC New Hope LLC) to implement activities (including but not limited to design, installation and commissioning) that will lead to the successful installation, interconnection, and operation of an anaerobic digestion system at New Hope Dairy.
- Negotiate and execute an agreement with the New Hope Dairy owners that addresses feedstock, site control, and leasing of the farm.

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- Obtain permits required for the project.
- Prepare a preliminary design of an anaerobic digester and solids separation system.
- Prepare a preliminary project design report on the biogas collection system and engine genset for the CHP application.
- Prepare a final project design of the New Hope Dairy digester and engine-generator energy recovery system.
- Prepare construction documents for the CHP application.
- Procure all equipment and materials necessary to construct the integrated anaerobic digester (AD) and engine genset for the CHP application.
- Construct the digester system at the farm.
- Complete the electrical interconnection of the engine-generator to the Recipient's power lines.
- Enter into a power purchase agreement with New Hope Dairy.
- Ensure that the Recipient's interconnection equipment is delivered and installed when required for interconnection and supply.
- Install a voltage regulator per interconnect agreement between SMUD and New Hope Dairy.
- Prepare a *Test Plan for the Start-Up of the Digester System* that includes but is not limited to:
 - A description of the digester system to be tested
 - A rationale for why the tests are needed
 - Test objectives and technical approach
 - A candidate test matrix showing the operating conditions and digester system to be tested
 - A description of the equipment and instrumentation required to conduct the tests
 - A description of test procedures, including parameters to be varied, variation ranges to be tested, parameters to be measured and the instrumentation used to measure them, calibration procedures to be used including calibration intervals, and data sheets to be completed
 - A description of the data analysis procedures
 - A description of the quality assurance procedures
 - Contingency measures to be considered if test objectives are not met
- Perform the start-up of the digester and commission the operation of the engine-generator.
- Prepare a *Start-Up Test and Commissioning Report* that summarizes the start-up and commissioning activities.
- Prepare a *Test Plan for Field Demonstration, Operation, and Monitoring of the Digester and Engine-Generator System* that includes but is not limited to:
 - A description of the digester and engine-generator system to be tested
 - A rationale for why the tests are needed
 - Test objectives and technical approach

Exhibit A WORK STATEMENT

- A candidate test matrix showing the operating conditions and digester and engine-generator system to be tested
- A description of the equipment and instrumentation required to conduct the tests
- A description of test procedures, including parameters to be varied, variation ranges to be tested, parameters to be measured and the instrumentation used to measure them, calibration procedures to be used including calibration intervals, and data sheets to be completed
- A description of the data analysis procedures
- A description of the quality assurance procedures
- Contingency measures to be considered if test objectives are not met
- Demonstrate the operation of the digester and engine-genset for the CHP application. Monitor the performance of the integrated system.
- Perform technology transfer activities by communicating the technological aspects of the dairy digester and energy production system to interested parties.
- Prepare a *Project Design and Construction Summary Report* that includes but is not limited to a discussion of: the basis of design for the digester system, mass and energy balances for the AD, solid separator, biogas collection system and engine genset for CHP application, design of the biogas collection system and engine genset, and construction.
- Prepare a *Task 4 Field Demonstration, Operation, and Monitoring Report* that includes results of field demonstration/ operation activities, and a discussion of economic performance, job creation and greenhouse gas benefits.
- Prepare a *Technology Transfer Plan*.
- Participate in a CPR and prepare a *CPR Report* per Task 1.2.

Products:

- Test Plan for the Start-Up of the Digester System
- Start-Up Test and Commissioning Report (no draft)
- Test Plan for Field Demonstration, Operation, and Monitoring of the Digester and Engine-Generator System
- Project Design and Construction Summary Report (no draft)
- Task 4 Field Demonstration, Operation, and Monitoring Report
- Technology Transfer Plan (no draft)
- CPR Report

Task 5 Anaerobic Digestion System for the Van Warmerdam Dairy Farm

The goal of this task is to install an anaerobic digester system at the Van Warmerdam Dairy Farm in Elk Grove, California, which has 1200 lactating dairy cows. The biogas produced will be fed to a Guascor engine that will generate an electrical output of 250 kW for a CHP application.

The Recipient shall:

Exhibit A WORK STATEMENT

- Complete an agreement with the subcontractor (Maas Energy Works) to implement activities (including but not limited to design, construction and commissioning) that will lead to the successful installation, interconnection, and operation of an anaerobic digestion system at Van Warmerdam Dairy Farm.
- Enter into an agreement with Van Warmerdam Dairy owners that addresses feedstock, site control, and leasing of the farm.
- Perform a preliminary design of an anaerobic digester and solids separation system.
- Obtain permits required for the projects.
- Perform a preliminary *Project Design Report* of the biogas collection system and engine genset for the CHP application.
- Perform a project design of the Warmerdam digester and engine-generator energy recovery system, including construction documents for the CHP application.
- Procure all supplied equipment and materials necessary to construct the integrated AD and engine genset for CHP application.
- Construct the digester system at the farm.
- Complete the electrical interconnection of the engine-generator to the Recipient's power lines.
- Enter into a power purchase agreement with Van Warmerdam Dairy Farm.
- Ensure that the Recipient's interconnection equipment is delivered and installed when required for interconnection.
- Supply and install the voltage regulator per interconnect agreement between SMUD and Van Warmerdam Dairy Farm.
- Prepare a *Test Plan for the Start-Up of the Digester System* that will include but not be limited to:
 - A description of the digester system to be tested
 - A rationale for why the tests are needed
 - Test objectives and technical approach
 - A candidate test matrix showing the operating conditions and digester system to be tested
 - A description of the equipment and instrumentation required to conduct the tests
 - A description of test procedures, including parameters to be varied, variation ranges to be tested, parameters to be measured and the instrumentation used to measure them, calibration procedures to be used including calibration intervals, and data sheets to be completed
 - A description of the data analysis procedures
 - A description of the quality assurance procedures
 - Contingency measures to be considered if test objectives are not met
- Perform the start up the digester and commission the operation of the engine-generator.
- Prepare a *Start-Up and Commissioning Report* that summarizes the start-up and commissioning activities.

Exhibit A WORK STATEMENT

- Prepare a *Test Plan for Field Demonstration, Operation, and Monitoring of the Digester and Engine-Generator System*. The plan will include but not be limited to:
 - A description of the digester and engine-generator system to be tested
 - A rationale for why the tests are needed
 - Test objectives and technical approach
 - A candidate test matrix showing the operating conditions and digester and engine-generator system to be tested
 - A description of the equipment and instrumentation required to conduct the tests
 - A description of test procedures, including parameters to be varied, variation ranges to be tested, parameters to be measured and the instrumentation used to measure them, calibration procedures to be used including calibration intervals, and data sheets to be completed
 - A description of the data analysis procedures
 - A description of the quality assurance procedures
 - Contingency measures to be considered if test objectives are not met
- Demonstrate the operation of the digester and engine-genset for the CHP application. Monitor the performance of the integrated system.
- Perform technology transfer activities by communicating the technological aspects of the dairy digester and energy production system to interested parties.
- Prepare a *Project Design and Construction Summary Report* that includes but is not limited to a discussion of: the basis of design for the digester system, mass and energy balances for the AD, solid separator, biogas collection system, and engine genset for CHP application, design of the biogas collection system and engine genset, and construction.
- Prepare a *Task 5 Field Demonstration, Operation and Monitoring Report* that includes results of field demonstration/ operation and a discussion of economic performance, job creation and greenhouse gas benefits.
- Prepare a *Technology Transfer Plan*.
- Participate in a CPR and prepare a *CPR Report* per Task 1.2.

Products:

- Test Plan for the Start-Up of the Digester System
- Start-Up and Commissioning Report (no draft)
- Test Plan for Field Demonstration, Operation, and Monitoring of the Digester and Engine-Generator System
- Project Design and Construction Summary Report (no draft)
- Task 5 Field Demonstration, Operation and Monitoring Report
- Technology Transfer Plan (no draft)
- CPR Report

RESOLUTION NO. 2013-0138

Adopted by the Sacramento City Council

May 7, 2013

APPROVING AMENDMENT TO 1993 FINAL CLOSURE AND POSTCLOSURE MAINTENANCE PLAN FOR 28th STREET LANDFILL FOR SOLAR FACILITY AT SUTTER'S LANDING PARK

BACKGROUND

- A. Amendment to 1993 Final Closure and Postclosure Maintenance Plan for 28th Street Landfill for the 1.5 megawatt solar facility at Sutter's Landing Park is required under California Code of Regulations (CCR) Title 27.
- B. The Amendment to 1993 Final Closure and Postclosure Maintenance Plan was submitted to the Sacramento County Environmental Management Department, Local Enforcement Agency (LEA), CalRecycle and the Central Region of the California Regional Water Quality Control Board (RWQCB) on March 21, 2013. Approvals from all three agencies are attached as Exhibit B.
- C. The additional annual postclosure maintenance costs to the City will be \$6,980.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. The Amendment to 1993 Final Closure and Postclosure Maintenance Plan for 28th Street Landfill is hereby approved.

Exhibits:

- Exhibit A: Plan Description
- Exhibit B: Agency Approval Letters

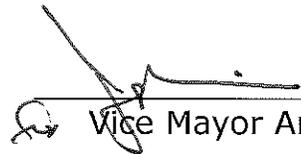
Adopted by the City of Sacramento City Council on May 7, 2013 the following vote:

Ayes: Councilmembers Ashby, Cohn, Fong, Hansen, Pannell, Schenirer, Warren, and Mayor Johnson

Noes: None

Abstain: None

Absent: Councilmember McCarty


Vice Mayor Angelique Ashby

Attest:


Shirley Concolino, City Clerk

NOTICE OF DETERMINATION

To: X Office of Planning and Research
 1400 10th Street, Room 222
 Sacramento, CA 95814

X County Clerk
 County of Sacramento

From: City of Sacramento
 Community Development
 Department
 Planning Division
 300 Richards Boulevard, 3rd Floor
 Sacramento CA 95811

ENDORSED
 SACRAMENTO COUNTY
 MAY 08 2013
 CRAIG A. HUMMER, CLERK RECORDER
 BY [Signature] DEPUTY

Subject: Filing of Notice of Determination in compliance with Section 21152 of the Public Resources Code.

Project Title: Conergy Solar Facility at Sutter's Landing Park

2012052049	City of Sacramento	Dana Allen Associate Planner	(916) 808-2762
State Clearinghouse #	Lead Agency	Contact Person	Telephone
David Vincent	Conergy 3947 Lennane Drive., Ste 275 Sacramento, CA 95834		(530) 743-7318
Applicant Name	Address	Telephone	

Project Location (include county): The project site is located at the northern end of 28th Street, in the northeast area of downtown Sacramento, in the Sutter's Landing Park. The Assessor's Parcel Numbers are 001-0170-0180, 003-0010-001, 003-0042-002, and 003-0050-016.

Project Description: The proposed project includes installation of solar modules, operation of the modules to produce and sell electricity, and removal of the modules at the conclusion of the lease term. The solar facility would be designed to generate 1.4 megawatts alternating current. The project site is located on property owned by the City of Sacramento. Operation of the solar facility by Conergy, Inc. would be pursuant to a lease agreement with the City of Sacramento. The proposed project includes the installation of solar modules on the ground and on shade structures. The ground-mounted modules would be located on a paved portion of the park site that immediately west of the existing Dog Park. Column-mounted structures would be located within the Dog Park and in other paved areas of the park site.

This is to advise that the City of Sacramento, City Council has approved the above described project on May 7, 2013 and has made the following determination regarding the above described project:

1. The project will will not have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation Measures were /were not made a condition of the approval of the project.
4. A statement of Overriding Considerations was adopted for this project.
5. Findings were made pursuant to the provisions of CEQA

RECEIVED

This is to certify that the final EIR with comments and responses or Negative Declaration and the record of project approval is available to the General Public at:

MAY 08 2013

City of Sacramento, Development Services Department, Planning Division
 300 Richards Boulevard, Third Floor, Sacramento, California 95811

STATE CLEARING HOUSE

[Signature] ASSOCIATE PLANNER 5/8/13
 Signature (Lead Agency Contact) Title Date

REC'T # 0007776318
May 08, 2013 11:42:10 AM

Sacramento County Recorder
Craig A. Kramer, Clerk/Recorder

Check Number 5192

REQD BY

State Fees	\$2,156.25
CLERKS	\$26.00

Total fee	\$2,182.25
Amount Tendered...	\$2,182.25

Change	\$0.00
--------------	--------

048.58/1/0



COMMUNITY DEVELOPMENT
DEPARTMENT

PLANNING DIVISION

ENVIRONMENTAL PLANNING
SERVICES
916-808-2762
FAX 916-808-1077

MITIGATED NEGATIVE DECLARATION

The City of Sacramento, California, a municipal corporation, does hereby prepare, declare, and publish this Mitigated Negative Declaration for the following described project:

Solar Photovoltaic Park at 28th Street Landfill (P11-016). The proposed project would construct and operate a solar photovoltaic park. The project site is located at the northern end of 28th Street, in the northeast area of downtown Sacramento, in the Sutter's Landing Park/City of Sacramento's 28th Street Landfill. The Assessor's Parcel Numbers are 001-0170-018, -019, -021, -026 and 003-0010-001. The 2030 General Plan land use designation for the project site is Parks and Recreation. The zoning designation is A-OS-PC (Agriculture-Open Space-Parkway Corridor).

The Lead Agency is the City of Sacramento. The City of Sacramento, Community Development Department, reviewed the proposed project and, on the basis of the whole record before it, determined that the proposed project is consistent with the land use designation for the project site as set forth in the 2030 General Plan. The City prepared the attached Initial Study that identifies potentially new or additional significant environmental effects (project-specific effects) that were not analyzed in the 2030 General Plan Master EIR. The City will incorporate all feasible mitigation measures or feasible alternatives appropriate to the project as set forth in the Master EIR, and adopt project-specific mitigation measures in order to avoid or mitigate the identified effects to a level of insignificance. (CEQA Guidelines Sections 15177(d), 15178(b)(2)). This Mitigated Negative Declaration reflects the Lead Agency's independent judgment and analysis. An environmental impact report is not required pursuant to the California Environmental Quality Act of 1970 (CEQA, Sections 21000, et seq., Public Resources Code of the State of California).

This Mitigated Negative Declaration was prepared pursuant to the California Environmental Quality Act, CEQA Guidelines (Title 14, Sections 15000 et seq. of the California Code of Regulations), the Sacramento Local Environmental Regulations, and the Sacramento City Code. A copy of this document and all supportive documentation may be reviewed or obtained at the City of Sacramento, Community Development Department, 300 Richards Boulevard, 3rd Floor, Sacramento, CA 95811.

Environmental Services Manager, City of Sacramento,
California, a municipal corporation

By: _____

Date: _____


9/13/2011

CITY OF SACRAMENTO

COMMUNITY DEVELOPMENT DEPARTMENT

SOLAR PHOTOVOLTAIC PARK AT 28TH STREET LANDFILL PROJECT

INITIAL STUDY

SEPTEMBER 13, 2011

This Initial Study has been prepared by the City of Sacramento, Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811, pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 *et seq.*), CEQA Guidelines (Title 14, Section 15000 *et seq.* of the California Code of Regulations) and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento.

ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections:

SECTION I - BACKGROUND: Provides summary background information about the project name, location, sponsor, and the date this Initial Study was completed.

SECTION II - PROJECT DESCRIPTION: Includes a detailed description of the proposed project.

SECTION III - ENVIRONMENTAL CHECKLIST AND DISCUSSION: Reviews proposed project and states whether the project would have additional significant environmental effects (project-specific effects) that were not evaluated in the Master EIR for the 2030 General Plan.

SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: Identifies which environmental factors were determined to have additional significant environmental effects.

SECTION V - DETERMINATION: States whether environmental effects associated with development of the proposed project are significant, and what, if any, added environmental documentation may be required.

REFERENCES CITED: Identifies source materials that have been consulted in the preparation of the Initial Study.

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SECTION I - BACKGROUND

Project Name and File Number: Solar Photovoltaic Park at 28th Street Landfill

Project Location: The project site is located at the northern end of 28th Street, in the northeast area of downtown Sacramento, in the Sutter's Landing Park/City of Sacramento's 28th Street Landfill (see Figure 1, Regional Location; Figure 2, Project Vicinity). The Assessor's Parcel Numbers are 001-0170-018, -019, -021, -026 AND 003-0010-001.

Project Applicants: City of Sacramento, Department of Utilities (Owner/Lessor) and Conergy, Inc. (Operator/Lessee)

Project Planner: Evan Compton, Associate Planner
Community Development Department
300 Richards Boulevard, Third Floor
Sacramento, CA 95814
Telephone: (916) 808-5260
Email: ecompton@cityofsacramento.org

Environmental Planner: Dana Allen, Associate Planner
Community Development Department
300 Richards Boulevard, Third Floor
Sacramento, CA 95814
Telephone: (916) 808-2762
Email: dallen@cityofsacramento.org

Date Initial Study Completed: September 13, 2011

This Initial Study was prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 15000 *et seq.*). The Lead Agency is the City of Sacramento.

The City has prepared the attached Initial Study to (a) review the discussions of cumulative impacts, growth inducing impacts, and irreversible significant effects in the 2030 General Plan Master EIR to determine their adequacy for the project (see CEQA Guidelines Section 15178(b),(c)) and (b) identify any project-specific significant environmental effects that could result from the project.

This analysis incorporates by reference the general discussion portions of the 2030 General Plan Master EIR. (CEQA Guidelines Section 15150(a)). The 2030 General Plan and Master EIR are available for public review at the City of Sacramento, Community Development

Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811, and on the City's web site at: www.sacgp.org.

The City is soliciting views of interested persons and agencies on the content of the environmental information presented in this document. Due to the time limits mandated by state law, your response must be sent at the earliest possible date, but no later than the 30-day review period ending 5:00 p.m. on October 17, 2011.

Please send written responses to:

Dana Allen, Associate Planner
Community Development Department
City of Sacramento
300 Richards Blvd, 3rd Floor
Sacramento, CA 95811
dallen@cityofsacramento.org

Figures and Attachments

Figures

- Figure 1 Regional Location, page 7
- Figure 2 Project Vicinity, page 8
- Figure 3 Project Vicinity: Aerial Photograph, page 9
- Figure 4 Solar Module Locations, page 10
- Figure 5 Viewing Areas, page 19
- Figure 6 View Areas Photos, pages 20-24

Attachments

- Attachment A Sutter's Landing Park Master Plan
- Attachment B Biological Resources Assessment, AES, August 2011
- Attachment C Drainage Report from SCS Engineers, August 2, 2011
- Attachment D URBEMIS Report (Air Quality)

SECTION II—PROJECT DESCRIPTION

The proposed project includes installation of solar modules, operation of the modules to produce and sell electricity, development of infrastructure for the transmission of electricity and removal of the modules and other project infrastructure at the conclusion of the lease term. The project site is located on property owned by the City of Sacramento. Development and operation of the solar park by Conergy, Inc. (Conergy) would be pursuant to a lease agreement with the City of Sacramento. The City of Sacramento would serve as the party responsible for the implementation and monitoring of all mitigation measures.

Project Location

The project site is located at the northern end of 28th Street, in the northeast area of downtown Sacramento, in the Sutter's Landing Park (see Figure 1 and Figure 2). The Assessor's Parcel Numbers are 001-0170-018, -019, -021, -026 and 003-0010-001.

The site is bordered by the American River to the north, Interstate 80 Business Route to the south, Southern Pacific Railroad tracks to the east, and industrial properties to the west. Surrounding land uses include the American River Parkway recreational open space to the north, residential to the east, undeveloped lands zoned for residential uses to the south, and the remainder of the Sutter's Landing Park to the west, beyond which is an industrial use. See Figure 3, Aerial Photograph.

The land use designation for the project site in the 2030 General Plan is Parks and Recreation. The site is zoned A-OS-PC (Agriculture-Open Space-Parkway Corridor). The PC designation reflects the project site's location within the American River Parkway Corridor, which is an overlay zone in the Sacramento City Code (Chapter 17.160).

Proposed Project Components

The proposed project includes the installation of solar modules, each of which measures 5'4" x 3'3" x 1.8". Modules installed on the landfill portion of the site would be mounted on aluminum racks that support 28 modules mounted in a portrait configuration. See Figure 4. Some modules would be mounted on shade structures and on the existing baler building. Additional modules would be mounted along the Interstate 80 Business Route.

All modules would be mounted with a 20 degree tilt. The tilt would orient the modules' surfaces to the south to obtain the highest exposure to the sun.

The solar facility would be designed to generate 20 megawatts alternating current. The approximate number of modules in the project design is as follows:

Landfill mound (WMU A and WMU B)	83,000
Freeway frontage	3,000
Baler building/Carports	2,800
Stockpile Area	6,500

Approximate Total 95,300 solar modules

FIGURE 1 – Regional Map

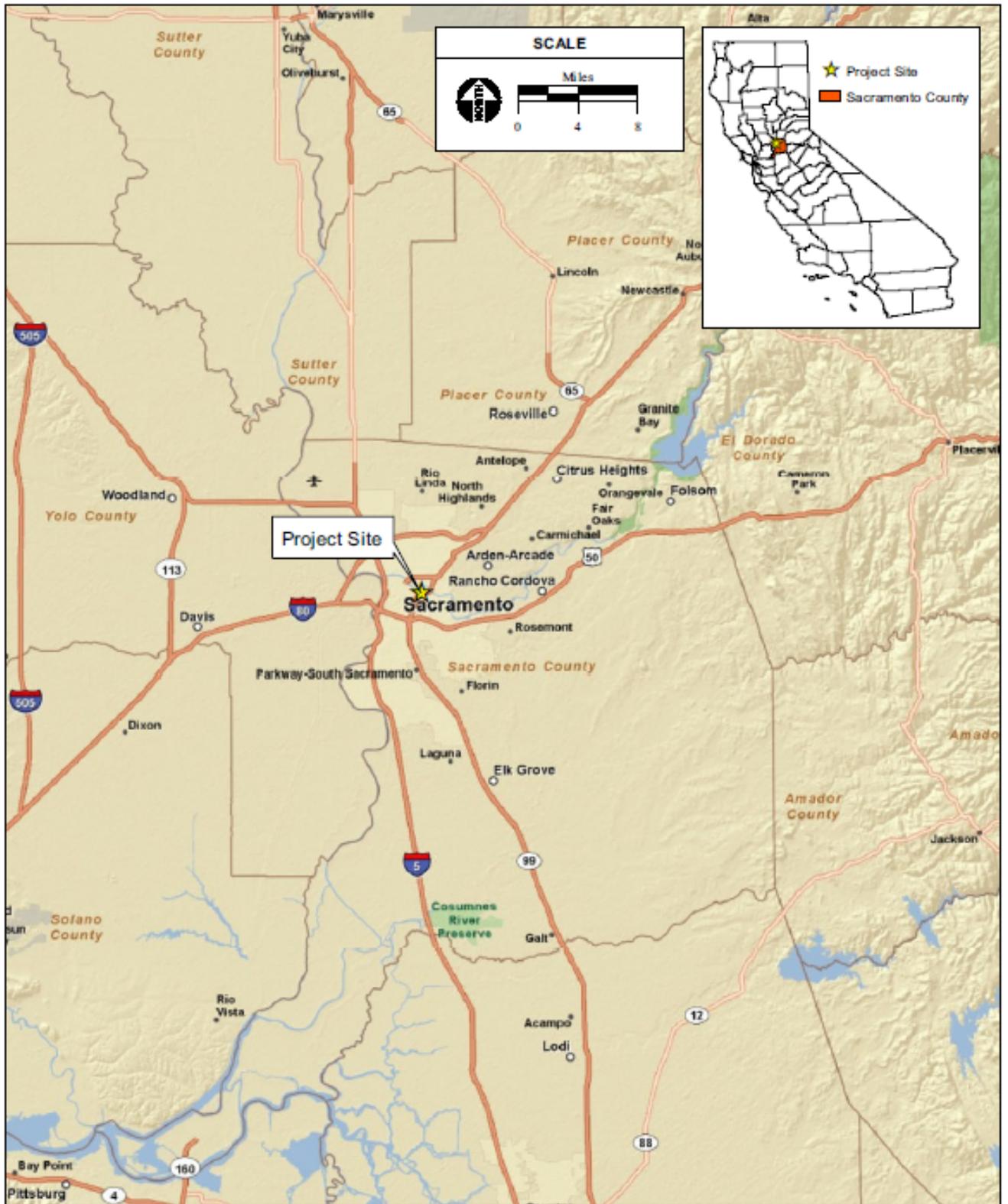


FIGURE 2 – Vicinity Map

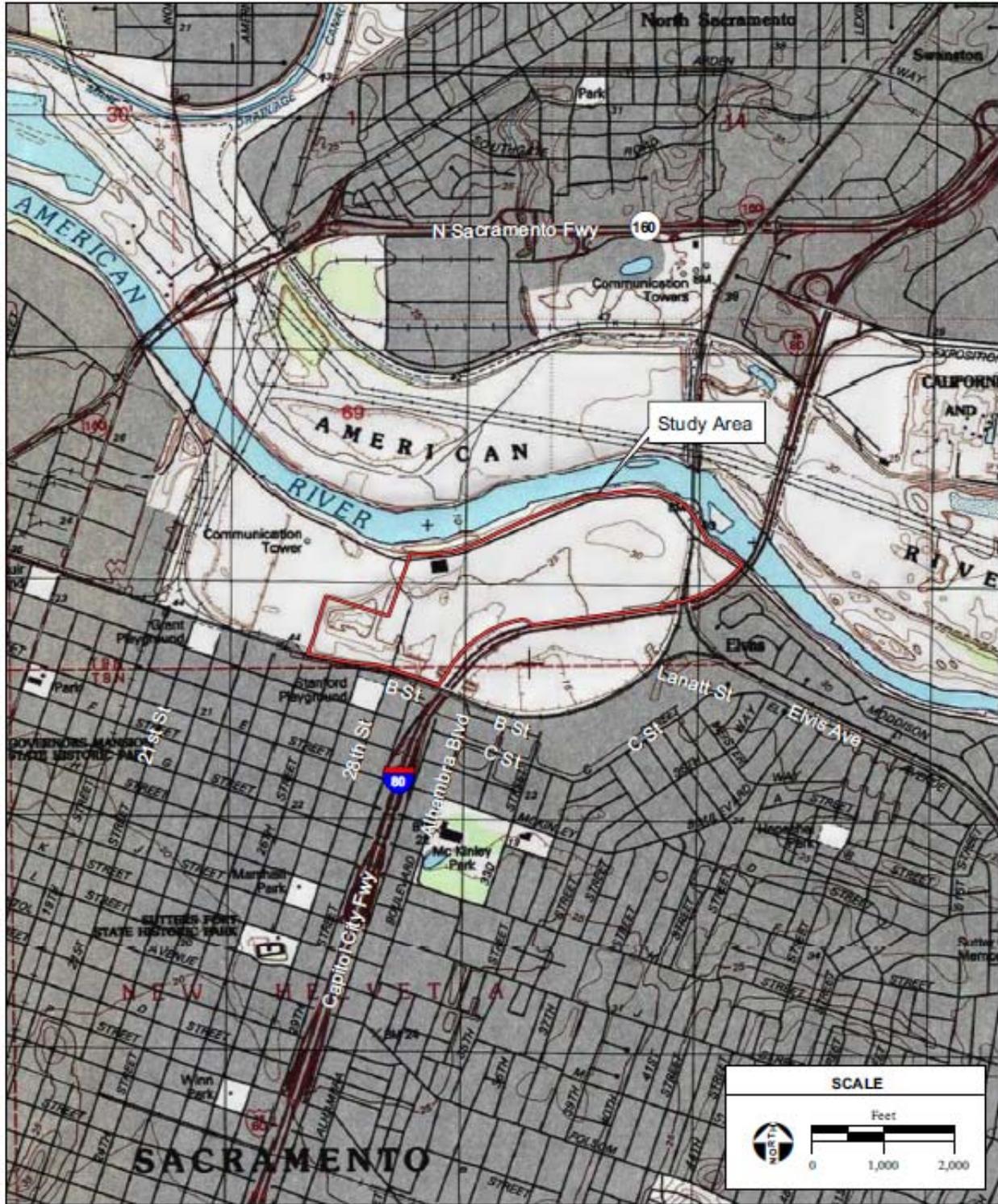
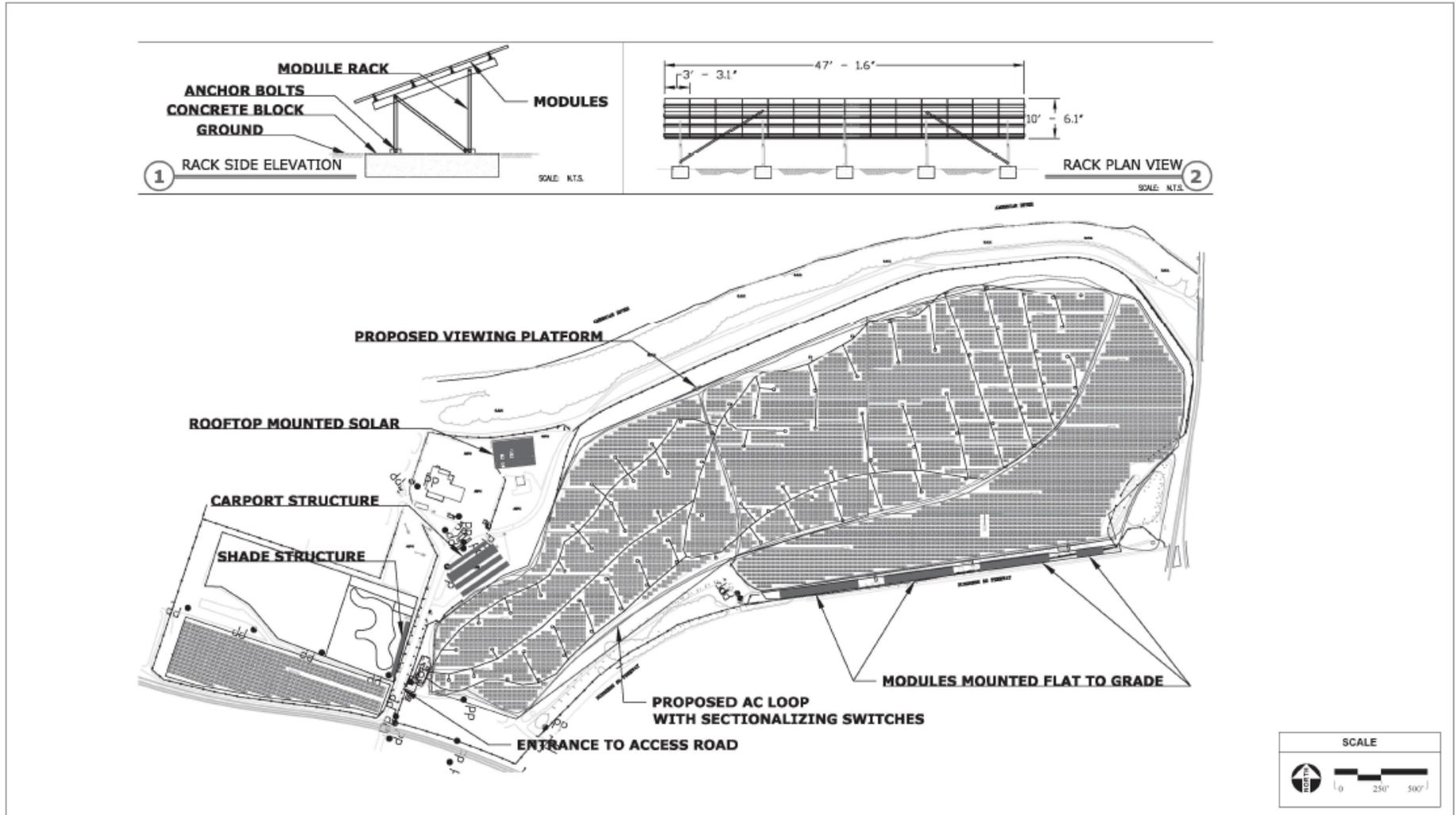


FIGURE 3 – Aerial Photo



Figure 4 – Typical Module Configuration: Mound and Site Plan



The location of modules on the site is shown in Figure 4, Solar Module Locations.

Materials involved in the solar installation would be delivered in component parts to the project site, transported to point of installation, and assembled and installed manually with the assistance of light-weight equipment. Each solar module weighs approximately 44 pounds. Each concrete ballast (71" x 20" x 14") weighs approximately 6,000 pounds. The aluminum rack that is assembled on site has a total weight of approximately 1,400 pounds.

Electrical current generated by the solar modules is direct current (DC), and would feed into approximately 20 on-site inverters to change the DC electrical current generated by the modules to alternating current (AC) for use by the SMUD grid. This current would be routed to the SMUD substation located approximately ¼ mile west of the project site via overhead power lines.

Figure 4 includes an illustration of the design of a typical solar installation on the landfill portion of the site. This installation would be mounted on concrete footers, or ballasts. Solar modules along the freeway frontage would be mounted flat to grade, approximately 125 feet from the travelled portion of the freeway.

Approximately 20 inverter stations would be installed at various locations on the mound to convert the electricity generated by the solar panels from direct current (DC) to alternating current (AC) for use by the utility buying the power. The inverter stations, switchgear and monitoring equipment would be located on concrete pads with a sheet roof to protect them from the elements. Inverters are completely enclosed, and are approximately 10 feet high, 36 feet long and 11 feet wide. They may be mounted on skids or on a pad.

Electrical lines required for the operation of the solar modules would be installed in earthen mounds on the current ground surface.

Access to the site for installation, maintenance and removal would be via existing roadways at the site. No new roads would be constructed.

The project includes a viewing walkway for use by the public.

Construction and Removal

No grading of the site would occur in connection with the installations, and minor excavation and site preparation would be required only for concrete foundations for the shade structures and modules located along the freeway.

Development of the project site would include delivery of the solar modules and racks, construction of shade structures, installation of the solar modules and completion of electrical connections to the SMUD substation. Project construction would be completed over a period of approximately three years.

Solar modules and racks would be delivered in semi-trucks, and maneuvered on site with gas-powered vehicles. Semi-trucks and trailers would make regular deliveries to the project site during construction. Concrete ballasts and racks would be transferred from trailers to the staging area, delivered to the installation site and assembled by workers on the site. Modules would be delivered in the same manner, and installed. Approximately forty workers could be employed at any one time during the module installation process.

At the end of the lease, the operator would remove all solar-related facilities from the project site. Modules would be manually removed, racks dismantled, and all equipment on the site removed by truck. The landfill portion of the site would be returned to its condition prior to installation.

Operation

Operation of the solar park requires periodic inspection by Conergy employees for purposes of security. The solar park operation does not require any on-site employees. The solar park does not require any outside sources of energy, and there are no generators, pumps or other mechanical equipment present on the site as part of its operation.

Once installed, annual inspection, maintenance, and repair of the facilities would be necessary. Periodically, the modules would be cleaned with water. Racks holding the solar modules would be inspected annually. Crews would inspect the solar modules 3-4 times a year, spending approximately fifteen working days on site on each occasion.

The solar park on the mound and along the freeway frontage would be enclosed with a fence to prevent entry by unauthorized persons. Modules mounted elsewhere on the site would either be mounted on top of structures or similarly enclosed with a fence for security purposes.

Entitlements and Permits

City Action

- Lease approval for operation of the solar facility (City Council)
- Building permits (Community Development Department, Building Division)

Agencies

- California Solid Waste Management Board, as enforced by the County of Sacramento Environmental Management Department (Local Enforcement Agency): Approval of the amendments to the Post-Closure Plan.
- Regional Water Quality Control Board – approval of the drainage plan
- Sacramento Metropolitan Air Quality Management District
- California Department of Resources Recycling and Recovery (CalRecycle)

SECTION III – ENVIRONMENTAL CHECKLIST AND DISCUSSION

The project site is located at Sutter's Landing Park. The park is located on the site of a former City-operated landfill that is subject to ongoing landfill closure activities.

Prior Projects and Reports

The City conducted environmental review for the Sutter's Landing Regional Park Phase 1 Improvements (CIP #LS13) in 2008. The Phase 1 improvements were approved by the City Council on September 9, 2008. The project included interim improvements to portions of the park located west of 28th Street.

In 2008 City staff prepared a background report on Sutter's Landing Park that was intended to assemble all relevant information then available for the area into a reference document for future planning efforts. The Sutter's Landing Area Master Plan Background Report, October 1, 2008 is available online at

<http://www.cityofsacramento.org/planning/new-growth/sutter.cfm>

Landfill Activities and Regulation

The City of Sacramento owned and operated the 28th Street Landfill, which is now the site of Sutter's Landing Park. See Figure 2, Vicinity Map. The landfill was used for disposal of non-hazardous residential, commercial and industrial wastes, collected primarily by the City's waste collection services. Refuse filling took place beginning in 1963. The landfill has not accepted new waste since 1994.

The landfill closure process is subject to numerous technical requirements. See the *Final Closure and Postclosure Plan for the 28th Street Landfill* and <http://www.calrecycle.ca.gov/Laws/> for a complete listing of laws and regulations that may apply. The landfill closure process remains active, and is now governed by the California Regional Water Quality Control Board, Central Valley Region, through Order No. R5-2004-0039. The Order implements rules for the closure process, which are known as "waste discharge requirements."

The landfill operations occupied approximately 172 acres. The portion of the landfill site west of 28th Street was used for disposal prior to 1971 and has been capped with asphalt and improved with various structures. In 1971 disposal operations moved east of 28th Street to the area identified as Waste Management Unit A (WMU A), reaching its final elevation in 1991. Waste Management Unit B (WMU B) was clay-lined, was constructed in 1985, and operated intermittently until 1994.

Final cover construction activities were completed in 1997. The final cover profile and drainage structures were designed and constructed to satisfy the applicable requirements of the Waste Discharge Requirements and California regulations that apply to the closure. The WMU A cap ranges in elevation from approximately 60 to 86 feet (2009), which is approximately 22 to 48 feet above the surface of the American River. The WMU B cap ranges from approximately 48 to 64 feet (2009), approximately 10 to 26 feet above the surface of the river.

The final cover of WMU A and WMU B includes a 2-foot foundation layer of soil placed over the top surface of waste, a 1-foot compacted clay barrier over the foundation layer, and a 1-foot vegetative layer protecting the clay. Soils were compacted at a ratio of approximately 1,200 to 1,400 lbs/ft³ at closure and are compacted to 800 to 1,000 lbs/ft³ in areas that settle during postclosure. Compaction occurs periodically at the site. Access roads have been chip sealed with an asphaltic emulsion.

As part of the closure the landfill was graded to prevent ponding and a drainage system was installed. Collected storm water is routed through concrete V-ditches that discharge into the American River or into one of two detention basins in the southwest and southeast corners of the site. The cover and drainage improvements act to minimize the infiltration of water into the waste.

Access to the cap is limited to summer months. The site is mowed early each summer (May to June) for fire control and is compacted to facilitate drainage. Each year, from July to October, the maintenance of the cap is performed on WMU A and WMU B. Depending on the amount of settling that occurred during the year, dirt may be placed in the low spots that developed on the two WMUs in order to prevent ponding.

Landfill access roads along the landfill unit perimeter are slurry sealed with an asphalt emulsion to maintain an impenetrable surface.

A landfill gas (LFG) collection system has been installed to control the migration of combustible methane gases and to help prevent the migration of methane gas-borne contaminants that would otherwise migrate to groundwater. There are 82 interior extraction wells at WMU A and 18 at WMU B. A gas recovery system captures the LFG, which is currently combusted in one of two ground flares. The LFG also includes 66 perimeter extraction wells that are installed in a soil levee/berm along the southern fill perimeter. There are 19 groundwater monitoring wells on the two WMUs.

A landfill gas collection system was installed at WMU A and WMU B in 1990 and has been upgraded in phases since that date. In addition to controlling migration of combustible gases, the system helps to prevent migration of volatile organic compounds (VOCs) that could otherwise migrate to groundwater.

Activities that involve or affect WMU A and WMU B are subject to ongoing regulation related to the closure of the landfill and management of the cap area. For example:

- The two waste management units, totaling approximately 105 acres, are fenced to restrict access by the public.
- Drainage is controlled to prevent ponding and to limit settlement.

- The cap area is inspected weekly for rodent burrows and other evidence of vector presence, and remedial action is taken to compact burrows as soon as they are identified.
- Soils are compacted to 800 to 1,000 lbs/ft³ in areas that settle during postclosure.

Full public access to WMU A and WMU B cannot be allowed while the landfill gas collection system is in operation in its current form. The potential for ground settling and the presence of landfill gas and the collection system will preclude development of WMU A and WMU B as park properties for at least fifteen years. (Pers. Comm., M. Strauss, July 21, 2011)

City of Sacramento 2030 General Plan and the Master EIR

The 2030 General Plan, approved by the City Council in March 2009, includes goals, policies and implementation strategies intended to accommodate population and employment growth anticipated in the City during the next twenty years. As required by the California Environmental Quality Act (CEQA) the City identified and evaluated the significant effects on the environment that could occur through implementation of the 2030 General Plan. The City Council certified the Master EIR for the general plan prior to its adoption of the general plan itself.

The Master EIR identified and evaluated cumulative impacts, growth inducing impacts and irreversible significant effects that would result from implementation of the 2030 General Plan. Consistent with the CEQA Guidelines, the City has evaluated these analyses as they relate to the proposed project, and has determined that they adequately evaluate these impacts.

The proposed project consists of the installation and operation of a solar energy park at Sutter's Landing Park. Construction of the project would not involve unusual methods of construction, and only minor ground disturbance or excavation. Construction would not contribute to any significant cumulative effects.

Operation of the solar park would produce approximately 20 megawatts of electricity. The project would not require outside sources of power for operation, and would result in additional energy generated by renewable sources. The project would not contribute to any significant cumulative effects relating to energy production.

Energy produced by the project would be delivered to the existing electrical grid via the SMUD substation. The electrical energy would provide a new source of electricity, but would not be so substantial as to result in new demands for growth or services. No growth-inducing effects would occur.

The project would result in the commitment of approximately 100 acres of the Sutter's Landing Park site to solar energy production. The major portion of the project site consists of a mound identified as WMU A and WMU B, being waste management units of the old landfill. Landfill closure requirements will restrict the use of the mound area for at least fifteen years, and possibly longer. The project would not result in the commitment of resources in a manner that would have irreversible significant effects.

The 2030 General Plan designates Sutter's Landing Park as Parks and Recreation. The designation includes greenways, large developed parks, and other areas primarily used for

recreation (smaller parks and recreation facilities are included as elements within other urban form types). Typically, these areas are characterized by a high degree of open area, and a limited number of buildings. Recreational facilities frequently include sports fields, playground equipment, picnic areas, sitting areas, concession businesses, open turf and natural areas, trails, and golf courses.

This designation provides for public and private recreational opportunities to surrounding neighborhoods, communities, and the region including the following: parks (community and regional parks), greenways and trail, golf courses and commercial recreation facilities with an emphasis on outdoor activities.

City of Sacramento Zoning Code

The project site is zoned Parks and Recreation. No discretionary permits are required to initiate the proposed use on City-owned property.

Sutter's Landing Park Master Plan

The Sutter's Landing Park Master Plan was adopted in 2003. See Attachment A. The Master Plan listed only future uses for WMU A and WMU B (east end) as natural areas: disc golf, hiking trails, historical/natural interpretive signage, mountain biking and viewing/overlook areas. Any park improvements made since then have been considered by the City Department of Parks and Recreation to be in substantial compliance with this Plan. The proposed solar park is considered an "interim use" that is not a recreation use and no Master Plan amendment is required.

The proposed solar project is a Department of Utilities-sponsored project on City property that has not been released yet for park development because the landfill cannot yet support park development. The solar project is not a park project. It is located at a site designated for a future park. The time period for the solar use may extend beyond the landfill closure period, depending on the progress of post-closure activities.

The City maintains a web site devoted to Sutter's Landing Park. See <http://www.cityofsacramento.org/dsd/planning/new-growth/SuttersLanding.cfm>

American River Parkway Plan 2008: Woodlake Area

Sutter's Landing Park is located within the Woodlake Area, as identified in the American River Parkway Plan. The plan indicates that the Woodlake Area "...provides a unique opportunity within the Parkway to increase recreation opportunities while protecting and enhancing natural resources values." Policy 10.16 calls for actions that protect, enhance and expand native habitats that benefit fish and wildlife species, including seasonal wetland habitat, grassland restoration for raptor foraging and restoration of riparian and woodland habitat.

The riverfront portions of Sutter's Landing Park are located within the American River Parkway. Development and operation of the solar park would occur outside the boundaries of the Parkway. The primary effect on the Parkway would be the visibility of the solar park from the north side of the American River. The solar park would not hinder development of habitat or other restoration efforts.

Land Use and Population

The California Environmental Quality Act (CEQA) requires the Lead Agency to examine the effects of a project on the physical conditions that exist within the area that would be affected by the project. CEQA also requires a discussion of any inconsistency between the proposed project and applicable general plans and regional plans.

An inconsistency between the proposed project and an adopted plan for land use development in a community would not constitute a physical change in the environment. When a project diverges from an adopted plan, however, it may affect planning in the community regarding infrastructure and services, and the new demands generated by the project may result in later physical changes in response to the project.

In the same manner, the fact that a project brings new people or demand for housing to a community does not, by itself, change the physical conditions. An increase in population may, however, generate changes in retail demand or demand for governmental services, and the demand for housing may generate new activity in residential development. Physical environmental impacts that could result from implementing the proposed project are discussed in the appropriate technical sections.

This section of the initial study identifies the applicable land use designations, plans and policies, and permissible densities and intensities of use, and discusses any inconsistencies between these plans and the proposed project. This section also discusses agricultural resources and the effect of the project on these resources, as well as energy.

The project would construct and operate a solar facility in Sutter's Landing Park. Sutter's Landing Park is located on the site of a landfill previously operated by the City of Sacramento, and now subject to a post-closure proceeding at the California Regional Water Quality Control Board. See discussion below. The project would not result in new housing, and would not generate substantial levels of new employment that could result in new population. See discussion above for the project's relationship to the 2030 General Plan and the Sutter's Landing Park Master Plan.

Agricultural Resources

The project site is located on the site of a landfill previously operated by the City of Sacramento. No agricultural activities have occurred at the site, and no such operations would be affected by the project.

Energy

The proposed project would establish a solar park at the project site, and would be designed to produce 20 megawatts of electrical power. The project, as discussed above, implements the City's stated goals of encouraging alternative energy sources. The solar park would not require any energy to operate, and would produce electrical energy for delivery to the grid. The project is beneficial in its operation with regard to energy. See additional discussion under Air Quality, Climate Change and Greenhouse Gas Emissions.

Aesthetics

Changes in land use may, as in this case, result in changes in the views of a site that observers would experience. Changes in land use are not, however, considered to be environmental effects unless there are other physical changes that result in demonstrable physical changes. For example, the City reviews projects to determine whether they will result in new sources of light and glare (see discussion below). A project's aesthetic effects are inherently subjective, but may be relevant as policy considerations. For that reason, the project's visible changes are discussed here.

Figure 5, accompanied by photographs of the site from different viewing areas, illustrates the relationship of the site and views of the proposed solar park that would result. The following viewing areas are identified:

- *C Street and Fremont Park (Viewing Area 1)*: The C Street neighborhood and park are located at the foot of the embankment on which the railroad is located. The mound cannot be viewed from the park or from the neighborhood streets.
- *Sutter's Landing Park (Viewing Areas 2-8)*: The mound is clearly visible from multiple locations in Sutter's Landing Park.
- *American River, South Shore (Viewing Area 9)*: A footpath is located along the north extent of the mound and the solar park would be clearly visible from its path. A second path is located nearer the American River, and the solar facility would not be clearly visible from this path, nor from the river's bank, due to the change in elevation.
- *American River, North Shore (Viewing Area 10)*: The American River Parkway bicycle and pedestrian trail is set back from the American River as it traverses the area north of the project site. Sutter's Landing Park is visible only intermittently along this section. A pedestrian trail runs along the American River at the top of the bank on the north shore, and the landfill site is clearly visible from some locations, while the view is blocked by heavy vegetation at others. Generally, the mound is more visible from locations along the river to the east.
- *Freeway frontage*: Solar modules would be installed level with grade along the freeway. To the extent the modules are visible, they would be located above grade.

The site is primarily located within an industrial area and has been committed to these uses in the past. Consideration of the effect of these changes may be considered in the planning and park development processes.

FIGURE 5 – Viewing Areas



FIGURE 6 - Viewing Area Photos



1. Entrance to Sutter's Land Park from 28th Street



2. Looking west toward stockpile mound at railroad crossing



3. Looking east toward landfill mound.



4. Parking lot adjacent to landfill; site of the solar shade structures.



5. View of landfill from Baler Building.



6. Bike trail looking south.



7. Walking path to American River looking east.



8. Lower walking trail along American River.



9. On the bank of the river looking up toward the landfill mound.



10. Views from across the River looking toward landfill on walking path, from west to east.



11



12



13



14



15

SECTION III - ENVIRONMENTAL CHECKLIST AND DISCUSSION

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
1. LIGHT AND GLARE Would the proposal: A) Create a source of glare that would cause a public hazard or annoyance?			X
B) Create a new source of light that would be cast onto oncoming traffic or residential uses?			X

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, aesthetics impacts may be considered significant if the proposed project would result in one or more of the following:

Glare. Glare is considered to be significant if it would be cast in such a way as to cause public hazard or annoyance for a sustained period of time.

Light. Light is considered significant if it would be cast onto oncoming traffic or residential uses.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

The Master EIR described the existing visual conditions in the general plan policy area, and the potential changes to those conditions that could result from development consistent with the 2030 General Plan. See Master EIR, Chapter 6.13, Urban Design and Visual Resources.

The Master EIR identified potential impacts for glare (Impact 6.13-1). Mitigation Measure 6.13-1, set forth below, was identified to reduce the effect to a less-than-significant level.

Light cast onto oncoming traffic or residential uses was identified as a potential impact (Impact 6.13-2). The Master EIR identified Policy LU 6.1.14 (Compatibility with Adjoining Uses) and its requirement that lighting must be shielded and directed downward as reducing the potential effect to a less-than-significant level.

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO PROJECT

Master EIR Mitigation Measure 6.13-1: *The City shall amend the Zoning Code to prohibit new development from:*

- 1) *using reflective glass that exceeds 50 percent of any building surface and on the ground three floors;*
- 2) *using mirrored glass;*
- 3) *using black glass that exceeds 25 percent of any surface of a building; and,*
- 4) *using metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building.*

The Zoning Code has not yet been amended to include the restrictions identified in Mitigation Measure 6.13-1. The proposed project does not include any structures that would be subject to the mitigation measure.

QUESTIONS A AND B

The project would install and operate solar modules on several portions of Sutter's Landing Park. The landfill mound, which consists of waste management units A and B, would be the major installation area, supporting approximately 83,000 modules. Some solar modules would be located along Business 80, some on shade structures, and some on the area at the west of the entrance to the park now occupied by stockpiled dirt. See Project Description, above.

Installation of the solar modules on the site would occur during daytime hours, and would require no construction lighting. Security lighting has been installed at Sutter's Landing Park, which is sufficient for the proposed project. No new lighting would be installed.

A project may be considered as having a significant effect on the environment if it creates new sources of light and glare that may distract observers or have an adverse impact on safety.

Photovoltaic panels used in the proposed project will be coated with anti-reflective coatings to absorb as much sunlight as possible and reduce reflectivity to less than 10% of available light. (Pers. Comm., D. Vincent, August 16, 2011) The primary viewing area for the solar park would be along 28th Street within the Sutter's Landing Park site. Solar panels installed at grade to the south would be visible upon entry, and shade structures would be visible as the observer enters the park. The solar modules would not be visible to any residences. The most visible modules would be those located on the mound portion of the landfill, visible from 28th Street through the park, and from the walkway on the north side of the landfill. Other solar modules would either be installed at the entrance to Sutter's Landing Park, on shade structures, or above grade on the landfill mound, thus removing the potential to cast glare onto pedestrians at the park or those accessing the park on 28th Street.

The solar modules that would be installed along the freeway frontage would be visible to freeway drivers. While drivers on the freeway would be able to see the panels, the panels would be installed above the freeway grade, and with a 20 degree tilt as designed would not reflect any light onto traffic.

The project would not have any significant effects relating to light and glare.

MITIGATION MEASURES

None required.

FINDINGS

The project would have no significant effects relating to light and glare.

Issues:	Effect will be studied in EIR	Effect can be mitigated to less than significant	No significant environmental effect
2. AIR QUALITY			
<i>Would the proposal:</i>			
A) Result in construction emissions of NO _x above 85 pounds per day?			X
B) Result in operational emissions of NO _x or ROG above 65 pounds per day?			X
C) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X	
D) Result in PM ₁₀ concentrations equal to or greater than five percent of the State ambient air quality standard (i.e., 50 micrograms/cubic meter for 24 hours) in areas where there is evidence of existing or projected violations of this standard?			X
E) Result in CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm)?			X
F) Result in exposure of sensitive receptors to substantial pollutant concentrations?			X
G) Result in TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources?			X
H) Impede the City or state efforts to meet AB32 standards for the reduction of greenhouse gas emissions?			X

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, air quality impacts may be considered significant if construction and/or implementation of the Proposed Project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

- construction emissions of NO_x above 85 pounds per day;

- operational emissions of NO_x or ROG above 65 pounds per day;
- violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- PM₁₀ concentrations equal to or greater than five percent of the State ambient air quality standard (i.e., 50 micrograms/cubic meter for 24 hours) in areas where there is evidence of existing or projected violations of this standard. However, if project emissions of NO_x and ROG are below the emission thresholds given above, then the project would not result in violations of the PM₁₀ ambient air quality standards;
- CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm); or
- exposure of sensitive receptors to substantial pollutant concentrations.

Ambient air quality standards have not been established for toxic air contaminants (TAC). TAC exposure is deemed to be significant if:

- TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

The Master EIR addressed the potential effects of the 2030 General Plan on ambient air quality and the potential for exposure of people, especially sensitive receptors such as children or the elderly, to unhealthy pollutant concentrations. See Master EIR, Chapter 6.1.

Policies in the 2030 General Plan in Environmental Resources were identified as mitigating potential effects of development that could occur under the 2030 General Plan. For example, Policy ER 6.1.1 calls for the City to work with the California Air Resources Board and the Sacramento Metropolitan Air Quality Management District (SMAQMD) to meet state and federal air quality standards; Policy ER 6.1.12 requires the City to review proposed development projects to ensure that the projects incorporate feasible measures that reduce construction and operational emissions; Policy ER 6.1.11 calls for coordination of City efforts with SMAQMD; and Policy ER 6.1.15 requires the City to give preference to contractors using reduced-emission equipment.

The Master EIR identified exposure to sources of toxic air contaminants (TAC) as a potential effect. Policies in the 2030 general Plan would reduce the effect to a less-than-significant level. The policies include ER 6.1.5, requiring consideration of current guidance provided by the Air Resources Board and SMAQMD; requiring development adjacent to stationary or mobile TAC sources to be designed with consideration of such exposure in design, landscaping and filters; as well as Policies ER 6.11.1 and ER 6.11.15, referred to above.

The Master EIR found that greenhouse gas emissions that would be generated by development consistent with the 2030 General Plan would be a significant and unavoidable cumulative impact. The discussion of greenhouse gas emissions and climate change in the 2030 General Plan Master EIR are incorporated by reference in this Initial Study. (CEQA Guidelines Section 15150)

The Master EIR identified numerous policies included in the 2030 General Plan that addressed greenhouse gas emissions and climate change. See Draft MEIR, Chapter 8, and pages 8-49 et seq. The Master EIR is available for review at the offices of Development Services Department, 300 Richards Boulevard, 3rd Floor, Sacramento, CA during normal business hours, and is also available online at

<http://www.cityofsacramento.org/dsd/planning/environmental-review/eirs/>.

Policies identified in the 2030 General Plan include directives relating to sustainable development patterns and practices, and increasing the viability of pedestrian, bicycle and public transit modes. A complete list of policies addressing climate change is included in the Master EIR in Table 8-5, pages 8-50 et seq; the Final MEIR included additional discussion of greenhouse gas emissions and climate change in response to written comments. See changes to Chapter 8 at Final MEIR pages 2-19 et seq. See also Letter 2 and response.

ANSWERS TO CHECKLIST QUESTIONS

Question A

Air emissions during construction would occur due to project activities that include transport of solar modules and racks onto the landfill site, minor excavation and grading for installation of ballasts, and movement of workers around the project site. These activities would generate minor amounts of dust, but movement of trucks and other equipment at the site could cause the air quality to temporarily degrade during construction. The mitigation measures identified below would reduce any impacts to a less-than-significant level.

Emissions in the grading and excavation phase of construction are typically associated with exhaust of heavy equipment and the dust that is generated through grading activities. Estimated construction emissions resulting from development of the entire site including were calculated using the URBEMIS 2007, Version 9.2.4 program, and following the guidelines of the Sacramento Metropolitan Air Quality Management District (SMAQMD). It is estimated that construction activities of the entire site would generate up to approximately 17.99 pounds of NO_x per day (see Air Quality Data, Attachment D).

Operation of the solar park would require periodic visits by employees to clean the modules and minor maintenance issues. The activities would not generate substantial emissions, and any impacts for operations are less than significant. The SMAQMD Guidelines provide that if a project's NO_x emissions from heavy-duty mobile sources are less than significant, as here, then the lead agency may assume that exhaust emissions of other pollutants from operation of equipment and worker commute vehicles are also less than significant.

Based on the analysis of site activities associated with construction and operation of solar park the project would not result in any additional significant environmental effects.

Question B

The URBEMIS 2007 9.2.4 model was used to calculate estimated emissions for the operation of the proposed project and the development of the entire 100-acre site. Estimated ROG and NO_x emissions were calculated to be a maximum of 13.81 lbs/day and 0.96 lbs/day respectively,

which is below the 65 lbs/day threshold (see Attachment D). Operation of the solar park would not create significant operational emissions.

Question C and D

The proposed project would install and operate a solar park at Sutter's Landing Park. Emissions during construction would be related primarily to delivery and installation of the modules, which would require light mechanical equipment. Operation would generate alternative energy, and would not require outside energy sources. The proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Sacramento County is considered a nonattainment area for fine particle pollution. The SMAQMD has indicated that projects that implement Basic Construction Emissions Control Practices and disturb less than 15 acres per day would not exceed the concentration based threshold of significance for PM₁₀ and, therefore PM_{2.5}. Installation operations would not disturb more than 15 acres a day; however, the Basic Construction Emission Control Practices are included below as mitigation measures to be implemented during project construction to ensure that PM₁₀ and PM_{2.5} emissions would not be significant.

Question E, F, G

The proposed project would not generate emissions during operation. The project does not include any residential development, and would not result in the exposure of persons to toxic air contaminants.

Question H

As part of its action in approving the 2030 General Plan, the City Council certified the Master Environmental Impact Report (Master EIR) that evaluated the environmental effects of development that is reasonably anticipated under the new general plan. The Master EIR includes extensive discussion of the potential effects of greenhouse gas emissions. The Master EIR discussions regarding climate change are incorporated here by reference. See, for example:

Draft EIR: 6.1 Air Quality (Page 6.1-1)

Final EIR: City Climate Change master Response (Page 4-1)

Errata No. 2: Climate Change (Page 12)

These documents are available at: www.cityofsacramento.org/dsd/planning/environmental-review/eirs/ and at the offices of the Community Development Department at 300 Richards Boulevard, Third Floor, Sacramento, California.

The proposed project is consistent with goals and policies of the City relating to development of alternative energy sources. While the project would result in the generation of some greenhouse gases during construction and operation, as discussed below, these emissions are minor.

Short-term Construction Emissions

During construction of the project greenhouse gas (GHG) emissions would be emitted from the operation of semi-trucks and trailers for delivery of parts to the site, and from worker and building supply vendor vehicles. The total CO₂ emissions from construction equipment generated by the construction of the project would be approximately 334.2 metric tons. These emissions would equate to approximately 0.000069 percent of the estimated GHG emissions for all sources in California (483 million metric tons) (CARB 2009).

Long-term Operational Emissions

The proposed project would result in the operation of a solar park for approximately 20 years. While some greenhouse gas emissions would be generated by periodic security and maintenance trips to the site, these would generate negligible greenhouse gas emissions. The project would generate no substantial greenhouse gas emissions.

Ongoing Activities

The 2030 General Plan included direction to staff to prepare a Climate Action Plan for the City. Staff has continued work on this plan since adoption of the 2030 General Plan. The Climate Action Plan will provide additional guidance for the City's ongoing efforts to reduce greenhouse gas emissions. The tentative completion date for the Climate Action Plan is 2011.

Action continues at the state and federal level to combat climate change. In December 2009 the Environmental Protection Agency listed greenhouse gases as harmful emissions under the Clean Air Act. This action could eventually result in regulations that would have as their purpose the reduction of such emissions.

The Master EIR concluded that greenhouse gas emissions that could be emitted by development that is consistent with the 2030 General Plan would be cumulatively considerable and unavoidable (Errata No. 2, Page 12). The Master EIR includes a full analysis of greenhouse gas emissions and climate change, and adequately addresses these issues.

The project is consistent with the City's goals as set forth in the 2030 General Plan and Master EIR relating to reduction of greenhouse gas emissions. The project would not impede the City's efforts to comply with AB32 requirements. The project would not have any significant additional environmental effects relating to greenhouse gas emissions or climate change.

MITIGATION MEASURES

- AQ-1. Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- AQ-2. Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- AQ-3. Use wet power vacuum street sweepers to remove any visible track out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

AQ-4. Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).

AQ-5. All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

AQ-6. Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

AQ-7. Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

FINDINGS

All additional significant environmental effects of the project relating to Air Quality can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
<p>3. BIOLOGICAL RESOURCES Would the proposal:</p> <p>A) Create a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected</p>			X
<p>B) Result in substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal</p>		X	
<p>C) Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands)?</p>		X	

Analytical Environmental Services (AES) prepared a Biological Resources Assessment of the project site, dated August 2011. See Attachment B (the report). The discussion below is based on the report and its recommendations.

Thresholds of Significance

The significance of potential impacts to biological resources was evaluated based on legal protection, local, state, and federal agency policies, and documented resource scarcity and sensitivity. The project would result in a potentially significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

Chapter 6.3 of the Master EIR evaluated the effects of the 2030 General Plan on biological resources within the general plan policy area. The Master EIR identified potential impacts in terms of degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.

Policies in the 2030 General Plan were identified as mitigating the effects of development that could occur under the provisions of the 2030 General Plan. Policy 2.1.5 calls for the City to preserve the ecological integrity of creek corridors and other riparian resources; Policy ER 2.1.10 requires the City to consider the potential impact on sensitive plants for each project and to require pre-construction surveys when appropriate; and Policy 2.1.11 requires the City to coordinate its actions with those of the California Department Fish and Game, U.S. Fish and Wildlife Service, and other agencies in the protection of resources.

The Master EIR concluded that the cumulative effects of development that could occur under the 2030 General Plan would be significant and unavoidable as they related to effects on special-status plant species (Impact 6.3-2), reduction of habitat for special-status invertebrates (Impact 6.3-3), loss of habitat for special-status birds (Impact 6.3-4), loss of habitat for special-status amphibians and reptiles (Impact 6.3-5), loss of habitat for special-status mammals (Impact 6.5-6), special-status fish (Impact 6.3-7) and, in general, loss of riparian habitat, wetlands and sensitive natural communities such as elderberry savannah (Impacts 6.3-8 through 10).

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTIONS

Question A

No hazards or hazardous materials would be generated as part of the construction or operation of the proposed project. Completed solar modules would be delivered to the site, along with the aluminum rack structures that support the modules. No hazardous materials are used at the site. The solar modules produce no hazardous materials. Any impact is less than significant.

Questions B, C

Information regarding the study area was obtained from the following sources: a USFWS (2011) list, updated April 29, 2010, of federally listed species with the potential to occur on or be affected by projects on the Sacramento East quad; a California Native Plant Society (CNPS; 2011) inventory, dated April 25, 2011, of special status species known to occur on the Sacramento East quad and 8 surrounding quads (Taylor Monument, Rio Linda, Citrus Heights, Sacramento West, Carmichael, Clarksburg, Florin, and Elk Grove); a California Natural Diversity DataBase (CNDDDB) query, dated April 2, 2011, of special status species known to occur on the Sacramento East quad and 8 surrounding quads (CDFG, 2003); and CNDDDB records of special status species documented within 5 miles of the study area. The USFWS, CNDDDB, and CNPS lists are provided in Attachment 2 of the report.

AES biologists conducted a biological survey on May 27, 2011. The biological survey consisted of conducting a botanical inventory, evaluating biological communities, documenting potential habitat for special status species with the potential to occur within the study area, and conducting an informal delineation of waters of the U.S. Plants and wildlife observed within the study area are identified in Attachment 3 of the report.

A table summarizing the regionally occurring special status species identified on the USFWS, the CNPS, and the CNDDDB lists is provided as Attachment 4 of the report. The table provides a rationale as to whether the species have the potential to occur within the study area. Presence of the species or their habitat was evaluated during the biological survey.

The biological resources report discusses soil types at the project site, as well as habitat types. Terrestrial habitat types within the study area include: managed nonnative grassland, elderberry savanna, cottonwood forest, and ruderal/developed areas. Aquatic habitat types within the study area include: ephemeral drainage ditch and concrete-lined detention basin. A habitat map is provided in Figure 7 of the report.

Managed nonnative grassland occurs throughout the majority of the study area. These areas are compacted on an annual basis, as required by the 28th Street Landfill post-closure requirements, and are regularly mowed (Strauss, pers. comm., 2011). Irrigation of these areas is not allowed by landfill and water quality regulatory agencies. Burrowing rodents are actively controlled in the landfill closure area, by the weekly inspection of all landfill areas to identify and fill new burrows, the use of rodenticide and the ongoing recompaction of cap areas to respond to differential settling. As a result of these activities, no burrows were observed within the managed nonnative grassland area. Methane gas and other gasses generated by the breakdown of organic matter within the 28th Street Landfill is collected in 68 extraction wells, blowers, condensers and 2,450 feet of horizontal pipes and is currently flared.

Dominant vegetation observed within the nonnative grassland included: wild oat (*Avena fatua*), hyssop loosestrife (*Lythrum hyssopifolia*), riggut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Zorro fescue (*Vulpia myuros*), plantain (*Plantago coronopus*), field hedge parsley (*Torilis arvensis*), foxtail barley (*Hordeum murinum*), and field bindweed (*Convolvulus arvensis*). Two elderberry (*Sambucus mexicanus*) shrubs with stems less than one-inch diameter at ground level (dgl) were observed growing in containers surrounding pipe valves within the western portion of the nonnative grassland, and several shrubs with stems greater than one-inch dgl were observed in isolated locations in the southern portion of the nonnative grassland.

The locations of shrubs with stems greater than one-inch dgl are shown in Figure 7. These shrubs are discussed further under the *Special Status Wildlife* section.

Elderberry savanna occurs within the southeast portion of the study area, east of the railroad tracks. Elderberry shrubs are the dominant overstory species observed within this habitat type. Other overstory vegetation observed within this habitat type includes: willow (*Salix* sp.), box elder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Dominant understory vegetation observed within this habitat type includes: Himalayan blackberry, milk thistle (*Silybum marianum*), common sow thistle (*Sonchus oleraceus*), field hedge parsley, and wild grape (*Vitis californica*).

Cottonwood forest occurs within the southeast portion of the study area (Figure 6a: Photograph 4). The cottonwood forest occurs in a low area that appears to have been historically used as a detention basin. Fremont cottonwoods (*Populus fremontii*) are the dominant overstory species observed within this habitat type. Other overstory vegetation observed within this habitat type includes: box elder, Oregon ash, interior live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), and Northern California black walnut (*Juglans hindsii*). Understory vegetation associated with this habitat type is comprised primarily of upland species including: oat, soft chess, hedgehog dogtail (*Cynosurus echinatus*), Italian thistle (*Carduus pycnocephalus*), ripgut grass, field hedge parsley, and foxtail barley.

Ruderal/developed areas occur throughout the study area. These areas include the railroad tracks, paved and graded roads, road shoulders, and Sutter's Landing Park, which includes paved parking lots, buildings, ornamental landscaping, and dog and skate parks. Dominant vegetation observed within the ruderal area of this habitat type includes: field bindweed, wild oat, and prickly lettuce (*Lactuca serriola*).

Potential Waters of the U.S.

An approximately one-foot wide ephemeral drainage ditch occurs adjacent to a graded service road along the southwestern boundary of the study area (Figure 6b: Photograph 6). The ephemeral drainage ditch drains runoff from a eucalyptus grove located outside the southern boundary of the study area following precipitation events. The ephemeral drainage ditch drains southwestward and exits the southwestern boundary of the study area. No water was observed within the ephemeral drainage ditch during the May 27, 2011 biological survey of the study area. Vegetation associated with this feature is comprised primarily of upland species including: wild oat, ripgut grass, and Italian thistle.

A concrete-lined detention basin occurs on the southwest portion of the study area (Figure 6b: Photograph 7). The concrete-lined detention basin is a manmade feature used to hold water received from runoff from the surrounding nonnative grassland and ruderal/developed areas following precipitation events. The basin appears to hold water until it evaporates. Water was observed during the May 27, 2011 biological survey of the study area. This feature lacks vegetation. This feature is not considered potential waters of the U.S. because it lacks hydric vegetation and soils, and is an isolated feature that lacks connectivity to a potential waters of the U.S.

Special Status Species

For the purposes of this assessment, special status has been defined to include those species that are: listed as endangered or threatened under the FESA (or formally proposed for, or candidates for, listing); listed as endangered or threatened under the CESA (or proposed for listing); designated as endangered or rare, pursuant to California Fish and Game Code (§1901); designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050); designated as species of concern to the CDFG; or defined as rare or endangered under CEQA.

Attachment 3 of the report provides a summary of regionally occurring special status species obtained from the USFWS, CNDDDB, and CNPS lists and evaluates whether the species have the potential to occur within the study area based on habitat types observed during the May 27, 2011 biological survey. A CNDDDB map of special status species documented within a 5-mile radius of the study area is provided in Figure 8 of the report; a critical habitat map in the vicinity of the study area is provided in Figure 9. The study area does not occur within critical habitat for any federally listed species.

Special status species that may occur on the project site include:

Special Status Wildlife

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*; VELB)

Federal Status – Threatened

State Status – None

VELB is completely dependent on its host plant, the elderberry (*Sambucus* sp.) shrub during its entire life cycle throughout California's Central Valley (USFWS, 2008). VELB larvae live within the soft pith of the elderberry where they feed for one to 2 years. Adults emerge from pupation from the wood of elderberry shrubs during the spring as the plant begins to flower. The adults feed on the elderberry foliage up until they mate. Females lay their eggs in the crevices of elderberry bark. Upon hatching, the larvae tunnel into shrub stems and feed there. VELB typically utilize stems that are greater than one inch in diameter at ground level (dgl) (USFWS, 2008).

There are 11 CNDDDB records for this species within 5 miles of the study area. The nearest CNDDDB record (occurrence Number: 9) is from 1984 and abuts the northwestern boundary of the study area. The record states that adult VELB were observed on elderberry shrubs in riparian vegetation along the American River. Two elderberry shrubs with stems less than one-inch dgl were observed growing in containers surrounding pipe valves within the western portion of the nonnative grassland (Figure 6a: Photograph 1). The USFWS does not consider elderberry shrubs with stems less than one-inch dgl as VELB habitat. Elderberry shrubs comprised of stems with at least one inch dgl were observed in the elderberry savanna within the southeastern portion of the study area (Figure 6a; Photograph 3) and in a few isolated locations in the nonnative grassland within the southern portion of the study area (Figure 6b; Photograph 8). The host plant for this species occurs within the study area.

Burrowing Owl (*Athene cunicularia*)

Federal Status – None

State Status – Species of Concern

Burrowing owls occur in suitable habitat throughout California, except in northwestern coastal forests and on high mountains. Suitable habitat consists of open grasslands, especially prairie, plains, savanna, and in open areas including vacant lots and spoils piles near human habitat. Nesting and roosting occurs in burrows dug by mammals (such as California ground squirrels [*Spermophilus beecheyi*]), but may also occur in pipes, culverts, and nest boxes. Occupied nests can be identified by the lining of feathers, pellets, debris, and grass. Burrowing owls search for prey on the ground or on low perches such as fence posts or dirt mounds. Burrowing owls are diurnal, crepuscular, and nocturnal, depending on the time of year. Burrowing owls nest from March to August (CDFG, 2005).

There are 12 CNDDDB records for this species within 5 miles of the study area. Five of the 12 CNDDDB records are from the last 5 years. Three of the 5 records documented in the last 5 years are presumed extant; the other two have been extirpated. The nearest record is approximately one mile southeast of the study area (CNDDDB occurrence: 488). The record states that the burrowing owl occurrence is presumed extant, though the occurrence was last observed in 1974 (CDFG, 2003).

The majority of the nonnative grassland is maintained on an annual basis through soil compaction and vegetation mowing which reduces the likelihood of the presence of burrowing animals. The study area provides potential habitat for burrowing owls where annual disturbance from routine maintenance is limited, such as along the margins of the maintained nonnative grassland in the vicinity of the cottonwood forest and the elderberry savanna. No ground squirrel burrows, burrowing owls, or their sign were observed during the May 27, 2011 biological survey of the study area. Burrowing owls have the potential to occur within the study area.

Swainson's Hawk (*Buteo swainsoni*)
Federal Status – None
State Status – Threatened

Swainson's hawks are nesting raptors that arrive to their breeding grounds in the Central Valley in early March. Swainson's hawk nests are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley (County of Sacramento, 2007). A breeding pair constructs nests and lays eggs from late-April to late-May. The young typically hatch in mid-May, and nestlings generally fledge in mid-August (Cornell Lab of Ornithology, 2011). The young depend on the adults for approximately 4 weeks after fledging until they permanently leave the breeding territory. Swainson's hawks nest from February 15 through September 15. Suitable foraging habitat nearby nesting sites is critical for fledgling success (CDFG, 1994). Swainson's hawk are known to forage distances exceeding 18 miles from the nests (Estep, 1989).

The CDFG (1994) prepared the *State Fish and Game Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (Swainson's Hawk Staff Report). The report recommends new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The CDFG considers whether a project will adversely affect suitable foraging habitat within a 10-mile radius of a Swainson's hawk nest that has been active within the last 5 years. Suitable habitat includes areas that are considered small mammal and insect foraging habitat, such as California ground squirrels, California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), crickets (*Gryllidae* sp.), and grasshoppers (*Conocephalinae* sp.). Suitable Swainson's

hawk foraging habitat includes alfalfa, fallow fields, beet, tomato, and other low-growing row or field crops, dry-land and irrigated pasture, rice land (when not flooded), and cereal grain crops (including corn after harvest). Increased captures occurs in fields that are being harvested, disced, mowed, or irrigated.

There are 85 CNDDDB records for Swainson's hawk within 10 miles of the study area. There are 25 CNDDDB records for Swainson's hawk within 5 miles of the study area. The nearest record with an active nest within the last 5 years is from 2008 (CNDDDB occurrence: 1715) and is mapped approximately 2.5 miles southwest of the study area along the Sacramento River. The record states that a Swainson's hawk chick was observed in a nest along the west side of the Sacramento River.

The study area provides marginal nesting habitat within the cottonwood forest for Swainson's hawk, however, given that the cottonwood forest is comprised of a dense, even-age stand of trees and that the trees are less than 40 feet in height. The Swainson's hawk has a greater potential to nest within the riparian vegetation along the American River outside the northern boundary of the study area. The established riparian habitat along the American River to the north of study area provides optimal nesting habitat for this species within the cottonwood, California sycamore (*Platanus racemosa*), and willow (*Salix* sp.) trees exceeding heights of 50 feet. Several raptors nests were observed during the May 27, 2011 biological survey in the canopies of the cottonwood, California sycamore, and willow trees along the American River to the north of the study area. There was no visible bird activity in the vicinity of the nests at the time of the survey, so it is unclear what species of raptor utilize these nest sites. Swainson's hawk has a low potential to nest within the study area.

Available foraging habitat in the vicinity of the study area includes land designated as recreational open space to the north of the American River and on land to the south of Business Route 80. The managed nonnative grassland within the study area provides only marginal foraging habitat for Swainson's hawk, which prefers to forage in agricultural lands. No rodents or rodent burrows, which would provide evidence of sources of prey, were observed within the grassland during the May 27, 2011 biological survey, most likely due to annual soil compaction of the study area. Several black-tailed jack rabbits (*Lepus californicus*), less preferable sources of prey, were observed within the study area. A Swainson's hawk pair was observed foraging within the nonnative grassland within the study area and on land to the north of the study area, north of the American River during the May 27, 2011 biological survey.

As noted above, because the nonnative grassland on the landfill mound is of low quality given the lack of preferable prey base due to the lack of small rodents and rodent burrows as a result of annual soil compaction within the managed nonnative grassland, Swainson's hawk has a low potential to forage within the study area. AES recommended that a habitat compensation ratio of 0.25-to-one ratio (24.26 acres) of high quality Swainson's hawk foraging habitat be provided to offset the loss of the severely degraded habitat that exists within the project site.

White-Tailed Kite (*Elanus leucurus*)
Federal Status – None
State Status – Fully Protected

White-tailed kites are year-round residents in coastal and valley lowlands. White-tailed kites forage in open grasslands, meadows, agricultural fields, and emergent wetlands. Nesting occurs in dense stands of oaks, willow, or other deciduous trees from February through October

(CDFG, 2003). There are 5 CNDDDB records for white-tailed kite within 5 miles of the study area. The nearest CNDDDB record is from 2009 (occurrence number: 142) and is approximately 0.28 miles north of the study area. The record states that a nesting pair was observed bringing food to a nest in a deciduous tree (CDFG, 2003).

The cottonwood forest within the study area provides nesting habitat for this species. The nonnative grassland within the study area provides foraging habitat for this species. A white-tailed kite was observed foraging within the nonnative grassland during the May 27, 2011 biological survey of the study area. White-tailed kite have the potential to forage and nest within the study area.

Migratory Birds and Bird of Prey

Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). The MBTA protects migratory birds and other birds of prey, such as the great egret (*Ardea alba*) and the American kestrel (*Falco sparverius*). Nesting season occurs from March 1 to September 15. A killdeer (*Charadrius vociferous*) nest and the nesting pair were observed within the nonnative grassland during the May 27, 2011 biological survey of the study area. Migratory birds and other birds of prey have the potential to nest in trees within the cottonwood forest and elderberry savanna, within the ornamental landscaping associated with the ruderal/developed areas, and on the ground within the nonnative grassland within the study area.

Habitat Types

Table 3 summarizes the acreages of habitat types impacted by the proposed project. Impacts to aquatic habitats are discussed further within the *Potential Waters of the U.S.* section below. The USFWS and the CDFG consider elderberry savanna as a sensitive habitat type. The proposed project was designed to avoid impacts to this habitat type. The proposed project was designed to avoid impacts to the cottonwood forest. No other habitat types are considered sensitive as the ruderal/ developed areas do not provide quality habitat for native plants and wildlife, which the CDFG considers sensitive. Therefore, no mitigation is recommended. A map showing the impacted habitat areas is provided in Figure 10.

TABLE 3
Acreeages of Habitat Types impacted by the Proposed Project

Habitat Type	Acreage ¹
<i>Terrestrial</i>	
Managed Nonnative Grassland	97.06
Ruderal/Developed	6.19
<i>Aquatic</i>	
Concrete-Lined Detention Basin	0.72
Total	103.97

¹GIS calculations may not reflect exact acreage of study area due to rounding.
AES, 2011

Potential Waters of the U.S.

The concrete-lined detention basin is not a potentially jurisdictional feature because it is a manmade feature used to hold water received from runoff from the surrounding managed, nonnative grassland and ruderal/developed areas following precipitation events, lacks vegetation and soils, and is an isolated feature that lacks connectivity to a potential waters of the U.S. The ephemeral drainage ditch located along the southeastern edge of the project site may be considered a potential wetland or other waters of the U.S. and may be subject to USACE jurisdiction. The proposed project was designed to avoid impacts to the ephemeral drainage ditch. Therefore, no mitigation is recommended. Should the project be re-designed to impact or alter this drainage, a Section 404 CWA permit application, including formal delineation of waters of the U.S., would be required to be submitted to the USACE.

Special Status Plants

Dwarf Downingia (*Downingia pusilla*), Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*), and Heckard's Pepper-Grass (*Lepidium latipes* var. *heckardii*)

The proposed project would have no impacts on dwarf downingia, Ahart's dwarf rush, and Heckard's pepper-grass because these species do not occur within the project site.

Northern California Black Walnut (*Juglans hindsii*)

Northern California black walnut occurs within the cottonwood forest. The proposed project was designed to avoid impacts to the cottonwood forest. Therefore, this species would not be impacted and no mitigation is required.

Special Status Wildlife

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*; VELB)

There are several elderberry shrubs, the host plant for VELB, with stems at least one inch dgl located within 100 feet of the proposed project footprint. These shrubs are located along the southern border of the nonnative annual grassland (Figure 7). Removal of elderberry shrubs could result in harm to VELB which would be considered a violation of the FESA unless an incidental take authorization is obtained from the USFWS. The preferred alternative is avoidance, and Mitigation Measure Bio 1 would ensure that no impacts occur to these plants.

Swainson's Hawk (*Buteo swainsoni*) Nesting Habitat

Swainson's hawk has a low potential to nest within the cottonwood forest given the dense stand of trees and that the tree heights are less than 40 feet tall. The species has a greater potential to nest within the riparian vegetation along the American River outside the northern boundary of the project site. Construction activities within 0.25 miles of an active nest could result in disturbance of potential Swainson's hawk nest sites through temporary increases in ambient noise levels and increased human activity. Potential disruption of nesting Swainson's hawk during construction of the proposed project could result in the abandonment of active nests. This is considered a potentially significant impact. The mitigation measures identified in MM BIO 2 below would ensure that impacts to nesting Swainson's hawks are reduced to less than significant levels through identification and avoidance of active nests. These measures are based on the CDFG's (1994) Swainson's Hawk Staff Report and have been modified as they relate to the proposed project.

Swainson's Hawk (*Buteo swainsoni*) Foraging Habitat (SHFH)

As noted above, the managed nonnative grassland within the project site is considered low quality Swainson's Hawk foraging habitat given the lack of preferable prey base of small rodents and rodent burrows as a result of the City's ongoing landfill management activities, including weekly rodent burrow eradication and annual soil compaction. Approximately 97.06 acres of low quality foraging habitat within the managed nonnative grassland would be removed as a result of the proposed project. Once the lease for the photovoltaic solar park expires in 20 years, the project site would be restored to its pre-existing condition and landfill areas would continue to be maintained in accordance with applicable permit requirements. The removal of low quality foraging habitat for the limited duration of the project within the project site would not result in harm to the species as higher quality foraging habitat is present in the immediate vicinity of the study area including land designated as recreational open space to the north of the American River and land to the south of Business Route 80.

The CDFG considers 5 or more vacant acres within 5 miles of a nest that has been active within the last 5 years to be significant foraging habitat for Swainson's hawk regardless of quality, the conversion of which to urban uses is considered a significant impact. The proposed project occurs within 2.5 miles of Swainson's hawk nests that have been documented active within the last 5 years.

There are several critical factors considered in the evaluation of land proposed for mitigation for the loss of foraging habitat, including the following:

- Does the mitigation parcel provide suitable foraging habitat?
- What is the quality of foraging habitat provided—is it lesser, equal or higher value compared to the impacted habitat?
- Is the parcel located in close proximity to the impacted foraging habitat?
- Is the parcel occupied by or adjacent to active Swainson's hawk nests?
- Is the parcel adjacent to other protected habitat, thereby contributing to a larger habitat preserve?
- Is the parcel outside of areas identified for urban growth?

Using these standards, the mitigation measure identified below would ensure that impacts to Swainson's hawk foraging habitat would be reduced to less than significant levels through the preservation and management in perpetuity of suitable foraging habitat, contiguous with other areas of suitable foraging habitat, for Swainson's hawk.

The report on biological resources identified a habitat replacement ratio of 0.25:1 based on the reduced quality of foraging habitat affected by the project. Mitigation Measure BIO 3, set forth below, implements a more conservative estimate of mitigation by increasing the required ratio to 0.5: 1, and explicitly requiring high quality replacement habitat or credits in a qualified DFG mitigation bank. Because the foraging habitat within the project site is of low quality due to the post closure maintenance activities required for the former 28th Street Landfill, the preservation of foraging habitat at the ratio identified below would be sufficient to ensure that the temporary loss of habitat on the project site would not result in substantial reduction in the numbers of species, significantly limit its range, or cause populations to be reduced below self sustaining levels.

Burrowing Owl (*Athene cunicularia*)

Burrowing owls or their nests were not observed during May 27, 2011 survey of the project site. Although unlikely, burrowing owls have the potential to nest or winter within nonnative grassland along the margins of the project site. Potential disruption of burrowing owls from construction activities could result in the abandonment or loss of active nests through burrow destruction. This is considered a potentially significant impact.

Migratory Birds and Other Birds of Prey

The proposed project has the potential to impact nest sites for federally and state protected migratory birds and other birds of prey within the project site. Nesting birds and other raptors, including white-tailed kite, may utilize trees in the vicinity of the project site as nesting habitat. The current design of the proposed project would not result in the removal of any trees within the study area. However, potential disruption of nesting migratory birds and other birds of prey during construction could result in nest abandonment or mortality. The mitigation measures below would ensure that impacts to nesting birds are reduced to less than significant levels through identification and avoidance of active nests.

MITIGATION MEASURES

BIO 1 (Elderberry) Final design of the proposed project shall avoid removal of elderberry shrubs within stems at least one inch diameter at ground level (dgl). The following measures will avoid or reduce impacts to VELB to less than significant:

A qualified biologist shall conduct an elderberry stem survey of all elderberry shrubs within 100 feet of the proposed project footprint, in accordance with the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (Conservation Guidelines; USFWS, 1999b). An Effects Analysis report should be submitted to the USFWS and the City of Sacramento to document the avoidance and minimization measures identified in the Conservation Guidelines.

Complete avoidance measures include:

The proposed project shall be designed to avoid the installation of equipment within 20 feet of any elderberry shrub with stems measuring at least one inch dgl.

Temporary construction fencing shall be placed around the driplines of any elderberry shrubs with stems measuring at least one inch dgl prior to commencement of construction activities to ensure that no elderberry shrub is inadvertently removed. A biologist should be present during the installation of the construction fencing.

In all locations where the proposed project would occur within 100 feet of elderberry shrubs with stems measuring at least one inch dgl, high visibility construction fencing shall be placed at the edge of the construction footprint to denote the limit of disturbance and beginning of the avoidance areas. The construction barriers and fencing shall not be removed until construction activities within 100 feet of VELB habitat have been completed.

Signs shall be erected every 50 feet along the edge of avoidance areas with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the FESA, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs shall be clearly readable from a distance of 20 feet, and shall be maintained for the duration of construction.

A qualified biologist shall conduct an environmental awareness training to instruct all construction personnel crews about the status of the VELB and the need to protect its elderberry host plant. The training should include identification of special status species, required practices before the start of construction, general measures that are being implemented to conserve these species as they relate to the proposed pipelines, penalties for noncompliance, and boundaries of the survey area and of the permitted disturbance zones. Supporting materials containing training information should be prepared and distributed. Upon completion of training, all construction personnel should sign a form stating that they have attended the training and understand all the conservation measures. Training should be conducted in languages other than English, as appropriate. Proof of this instruction should be kept on file with the contractor. The City shall provide the USFWS with a copy of the training materials and copies of the signed forms by project staff indicating that training has been completed within 30 days of the completion of the first training session. The contractor should train and provide training materials to any new crew members that were not present at the environmental awareness training conducted by the biologist. Copies of signed forms should be submitted monthly as additional training occurs for new employees.

Staging areas shall be located at least 100 feet from elderberry shrubs with stems at least one inch dgl. Temporary stockpiling of excavated or imported material should occur only in approved construction staging areas.

Standard precautions shall be employed by the construction contractor to prevent the accidental release of fuel, oil, lubricant, or other hazardous materials.

A litter control program shall be instituted. The contractor shall provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage shall be removed daily.

Roadways and areas disturbed by project activities within 100 feet of elderberry shrubs shall be watered at least twice a day to minimize dust emissions.

The following mitigation measures shall be implemented to minimize adverse effects to VELB habitat within 20 feet of construction activities:

A biologist shall monitor all construction activities occurring within 20 feet of the elderberry shrubs to ensure that none are harmed.

The contractor shall ensure that dust control measures (e.g., watering) are implemented in the vicinity of the elderberry shrubs. To further minimize adverse effects associated with dust accumulation, the elderberry shrubs will be covered by a protective cloth (i.e., burlap or weed matting) during all ground-disturbing activities occurring within 20 feet of the elderberry shrubs. The cloth should be removed daily and immediately after ground-disturbing activities are completed.

Excluding ongoing maintenance activities within the project site, insecticides, herbicides, fertilizers, or other chemicals that might harm VELB or the elderberry shrub shall not be used in association with the proposed project within 20 feet of the elderberry shrubs.

The following measures shall be implemented following the completion of construction activities:

Any disturbed areas shall be revegetated and restored to pre-project conditions immediately.

The City shall provide a written report to the USFWS documenting the results of mitigation and describing how the construction areas are to be restored, protected, and maintained after construction is completed.

BIO 2 (Swainson's hawk) The following mitigation shall be required to avoid or reduce impacts to a less than significant level:

Prior to any construction activities that occur within the nesting season (March 1 and September 15), a qualified biologist shall conduct surveys for active Swainson's hawk nests in the project site and within 0.25 miles of the project site where legally permitted. The biologist shall use binoculars to visually determine whether Swainson's hawk nests occur beyond the 0.25-mile survey area if access is denied on adjacent properties. If no active Swainson's hawk nests are identified on or within 0.25 miles of construction activities, a letter report summarizing the survey results shall be submitted to the City within 30 days following the survey, and no further mitigation for nesting habitat is recommended.

If active Swainson's hawk nests are found within 0.25 miles of construction activities, the biologist shall contact the City within one day following the preconstruction survey to report the findings. No intensive disturbances (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within .25 miles (buffer zone as defined in the CDFG Staff Report) of an active nest between February 15 and September 15 or until the nestlings have fledged. Should a reduced buffer be necessary, then the CDFG shall be consulted to develop take avoidance measures, and implement a monitoring and reporting program prior to any construction activities occurring within 0.25 miles of the nest.

BIO 3 (Swainson's hawk foraging habitat) The following mitigation measure is required to reduce the loss of foraging habitat to less than significant:

Prior to the issuance of a grading or building permit, the City shall purchase, in fee title or conservation easement, 48.52 acres of high quality Swainson's hawk foraging habitat (0.5:1 replacement for lost habitat). Any easements shall be in compliance with Government Code Section 65965. High quality SHFH is defined as an area that is cultivated using alfalfa or other low growing row crops and actively farmed and maintained with a crop rotation that is known to support high quality foraging habitat in perpetuity. This site shall be located within approximately five miles of the project area, be proximal to active or historic Swainson's hawk nest sites and, if feasible, located adjacent to other protected habitat. A mitigation and monitoring plan (MMP) for the SHFH site shall be established by the City prior to the issuance of grading or building permits and, at a minimum, shall include a summary confirming title and encumbrances, legal description of the mitigation site and a detailed adaptive management plan for the development, maintenance and monitoring of the site. Land and easements shall be approved by the City in consultation with CDFG.

BIO 4 (Burrowing Owl) The following mitigation is required to avoid or reduce impacts to a less than significant level:

A qualified biologist shall conduct a preconstruction survey within 30 days prior to construction activities occurring within potential nesting or wintering habitat for burrowing owl, including the nonnative grassland areas that occur within the project site. In accordance with the CDFG burrowing owl survey protocol, the survey area shall extend 500-feet from construction areas (CDFG, 1995) where legally permitted. The biologist shall use binoculars to visually determine whether burrowing owls occur beyond the construction areas if access is denied on adjacent properties. If no burrowing owls or their sign are detected in the vicinity of the project site during the preconstruction survey, a letter report documenting survey methods and findings shall be submitted to the City and the CDFG within 30 days following the survey, and no further mitigation is required.

If unoccupied burrows are detected during the non-breeding season (September through January 31), the City shall be contacted within one day following the preconstruction survey to report the findings. The City shall collapse the unoccupied burrows, or otherwise obstruct their entrances to prevent owls from entering and nesting in the burrows.

If occupied burrowing owl burrows are detected, impacts on burrows shall be avoided by providing a buffer of 160 feet during the non-breeding season (September 1 through January 31) or 250 feet during the breeding season (February 1 through August 31). The size of the buffer area may be adjusted if a qualified biologist or the CDFG determine the burrowing owl would not likely be affected by the proposed project. Project activities shall not commence within the buffer area until a qualified biologist confirms that the burrow is no longer occupied. If the burrow is occupied by a nesting pair, a minimum of 7.5 acres of foraging habitat contiguous to the burrow shall be maintained until the breeding season is finished.

If impacts to occupied burrows are unavoidable, onsite passive relocation techniques approved by the CDFG shall be used to encourage burrowing owls to move to alternative burrows outside of the project site. No occupied burrows shall be disturbed during the nesting season unless a

qualified biologist verifies through non-invasive methods that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Mitigation for foraging habitat for relocated pairs shall follow the guidelines provided in *the California Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993). The mitigation for foraging habitat for relocated pairs range from 7.5 to 19.5 acres per pair.

BIO 5 (Migratory birds/birds of prey) The following mitigation measures are required to avoid impacts to nest sites for migratory birds and other birds of prey:

A preconstruction survey shall be conducted by a qualified biologist for nesting birds of prey and migratory birds within 2 weeks prior to commencement of construction activities that occur between March 1 and September 15. The qualified biologist shall document and submit the results of the preconstruction survey in a letter to the CDFG and the City within 30 days following the survey. The letter shall include: a description of the methodology including dates of field visits, the names of survey personnel, and a list of references cited and persons contacted, and a map showing the location(s) of any bird nests observed on the project site. If no active nests are identified during the preconstruction survey, then no further mitigation is recommended so long as construction activities commence within 14 days of the preconstruction survey. An additional preconstruction survey would be recommended within 14 days of the anticipated construction commencement should construction be delayed beyond the 14 days of the previous preconstruction survey.

If any active nests are identified during the preconstruction survey within the project site, a buffer zone shall be established around the nests, in coordination with CDFG. A qualified biologist shall monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. The biologist shall delimit the buffer zone with construction tape or pin flags within 50 feet of the active migratory nest or within 100 feet of an active raptor nest (excluding an active Swainson's hawk nest or an occupied burrowing owl burrow) and maintain the buffer zone until the end of the breeding season or until the young have successfully fledged. If establishing the 50- or 100-foot buffer zone is impractical, then a qualified shall monitor any construction activity occurring within the buffer zone on a daily basis. The biologist should have the authority to halt construction activities within the buffer zone should the disturbance have the potential to result in nest abandonment or forced fledging.

FINDINGS

Significant effects of the project on biological resources can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
<p>4. <u>CULTURAL RESOURCES</u> Would the project:</p> <p>A) Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in § 15064.5?</p>		X	
<p>B) Directly or indirectly destroy a unique paleontological resource?</p>			X

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, cultural resource impacts may be considered significant if the proposed project would result in one or more of the following:

1. Cause a substantial change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5 or
2. Directly or indirectly destroy a unique paleontological resource.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

The Master EIR evaluated the potential effects of development under the 2030 General Plan on prehistoric and historic resources. See Chapter 6.4, Cultural Resources. The Master EIR identified significant and unavoidable effects on historic resources and archaeological resources.

General plan policies identified as reducing such effects call for identification of resources on project sites (Policy HCR 2.1.1), implementation of applicable laws and regulations (Policy HCR 2.1.2 and HCR 2.1.15), early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10 and encouragement of adaptive reuse of historic resources (Policy HCR 2.1.13). Demolition of historic resources is deemed a last resort. (Policy HCR 1.1.14)

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

QUESTIONS A AND B

A Cultural and Historical Resources Background Report, prepared by ESA in May 2008 for the City’s Sutter’s Landing Interim Improvements Project, identified three cultural resources sites

within the study area; the federal levee along the south bank of the American river, the Transcontinental Railroad, and the Sutter's Landing State Historical Landmark. The report is available online at the City's EIR web page at <http://www.cityofsacramento.org/dsd/planning/environmental-review/eirs/>. The proposed project would require access from 28th Street, crossing the historic Transcontinental Railroad tracks into Sutter's Landing Park. The access off this road would have a relatively minor effect on the overall physical integrity and historical setting of the railroad; therefore, this project would not have an adverse effect on this cultural resource. The proposed project does not include any construction or development on the unimproved trail on the federal levee for the American River. Construction will be limited to the landfill mound and the Park's parking lot areas. Additionally, the construction and operation of the solar modules are located north of the Sutter's Landing historic landing site and memorializing plaque. Therefore, the proposed project will have a less than significant effect on these cultural resources. The study area is located in an area that have may have been attractive to prehistoric inhabitants based on its proximity to fresh water resources, and the presence of two prehistoric sites in the general vicinity. It is possible that buries archaeological site could occur in the proximity of the landfill and below the landfill. However, the area has been heavily modified due to the presence of Sacramento City Landfill activities between 1900 and 1950, as well as the capping of the landfill in the 1960s. The project site is subject to post-closure proceedings.

The primary area committed to solar modules is designated either Waste Management Unit (WMU) A or WMU B, and is the old landfill mound. The final cover of WMU A and WMU B includes a 2-foot foundation layer of soil placed over the top surface of waste, a 1-foot compacted clay barrier over the foundation layer, and a 1-foot vegetative layer protecting the clay. In other areas that are not located on the mound (i.e., parking lot) the cap extends six feet below the surface.

Solar modules on the mound portion of the site would be installed on aluminum racks, which would have a foundation of concrete ballasts. Each ballast would be installed in a gravel base. Only minor excavation would be required. Construction of shade structures on other portions of the site would not involve excavation that might lead to discovery of cultural resources.

While it does not appear the project site has a potential for resulting in discovery of cultural resources, project activities at the site could result in disturbance of the site, and such discoveries could result. Federal regulations (36 CFR Park 800.139b)) include provisions for the discovery of historic properties during the implementation of an undertaking and state that the agency official shall make reasonable efforts to avoid, minimize, or mitigate adverse effects to such properties. To respond to the slight possibility of such discovery, the mitigation measures below will be implemented, and would reduce any effect to a less than significant level.

MITIGATION MEASURES

CR-1 In the event that any prehistoric subsurface archeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, animal bone, obsidian and/or mortars are discovered during construction-related earth-moving activities, all work within 50 meters of the resources shall be halted, and the City shall consult with a qualified archeologist to assess the significance of the find. Archeological test excavations shall be conducted by a qualified archeologist to aid in determining the nature and integrity of the find. If the find is determined to be significant by the qualified archeologist, representatives of the City and the qualified archeologist shall coordinate to

determine the appropriate course of action. All significant cultural materials recovered shall be subject to scientific analysis and professional museum curation. In addition, a report shall be prepared by the qualified archeologist according to current professional standards.

- CR-2** If a Native American site is discovered, the evaluation process shall include consultation with the appropriate Native American representatives.

If Native American archeological, ethnographic, or spiritual resources are involved, all identification and treatment shall be conducted by qualified archeologists, who are certified by the Society of Professional Archeologists (SOPA) and/or meet the federal standards as stated in the Code of Federal Regulations (36 CFR 61), and Native American representatives, who are approved by the local Native American community as scholars of the cultural traditions.

In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted. If historic archeological sites are involved, all identified treatment is to be carried out by qualified historical archeologists, who shall meet either Register of Professional Archeologists (RPA), or 36 CFR 61 requirements.

- CR-3** If a human bone or bone of unknown origin is found during construction, all work shall stop in the vicinity of the find, and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, who shall notify the person most likely believed to be a descendant. The most likely descendant shall work with the contractor to develop a program for re-internment of the human remains and any associated artifacts. No additional work is to take place within the immediate vicinity of the find until the identified appropriate actions have taken place.

FINDINGS

With implementation of the mitigation, the environmental effects of the project relating to Cultural Resources would be mitigated to a less-than-significant level.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
<p>5. <u>GEOLOGY AND SOILS</u></p> <p>Would the project allow a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards?</p>		X	

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact is considered significant if it allows a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

Chapter 6.5 of the Master EIR evaluated the potential effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, existing mineral resources and paleontological resources in the general plan policy area. Implementation of identified policies in the 2030 General Plan reduced all effects to a less-than-significant level. Policies EC 1.1.1 through 1.1.3 require regular review of the City’s seismic and geologic safety standards, geotechnical investigations for project sites and retrofit of critical facilities such as hospitals and schools.

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTIONS

Surface faulting or ground rupture tends to occur along lines of previous faulting. The nearest fault is the Foothill Fault System, located approximately 23 miles east of the project site. Since previously identified fault lines are not within or near the project site, the possibility of fault rupture is negligible within the site, but in the event of an earthquake on a nearby fault, the project site could experience ground shaking. The California Geological Survey (CGS) probabilistic seismic hazards maps shows that the seismic ground-shaking hazard for the city is relatively low, and is among the lowest in the State. Nonetheless, the State of California provides minimum standards for structural design and site development through the California Building Code (CBC – California Code of Regulations (CCR), Title 24, Part 2).

The 2007 CBC, effective January 1, 2008, is based on the current (2006) International Building Code and contains substantial enhancement of the sections dealing with fire safety, equal access for disabled persons, and environmentally friendly construction. The City's enforcement of its Building Code ensures the project would be consistent with the CBC.

The landfill is operating under a Postclosure Maintenance Plan, which requires yearly monitoring and maintenance specific of the final cover and drainage maintenance by a registered Civil Engineer. The inspection consists of a complete walkdown and visual examination of all final cover areas and drainage structures. Additional inspections of the final cover will occur at any time of intrusive investigation or monitoring and control system installation which penetrates the final cover and following earthquakes producing at least moderate ground motion.

The proposed project is not expected to create substantial erosion or loss of topsoil because the project site monitored and maintained to retain a slope of 1% or greater. Any areas having a slope of 1% or less will be graded to 1% or greater and seeded. Additionally, the landfill is required to be compacted to at least 90% with preventative measures in place to avoid erosion and promote surface drainage. Because of the implementation of these measures, the water erosion hazard is considered low during operation of the project.

Construction activities could disturb soils, which could lead to erosion. During construction, the project applicant will be required to implement the following mitigation measures in order to reduce the potential for erosion to a less-than-significant level.

MITIGATION MEASURES

GEO 1: Post construction, a registered Civil Engineer shall review the site to ensure the cover system has not been compromised by installation of solar modules and supporting structures. If it is found that the cover system has been compromised, the repairs may include local regrading, placement of fill, revegetation, and mulching over areas that have been eroded, disturbed by construction or where a potential for ponding exists due to differential settlement as directed by the Civil Engineer. The project applicant shall be required to implement the postclosure Maintenance and Repair practices as specified in the Final Postclosure Maintenance Plan Amendment No. 2 – December 18, 1995.

FINDINGS

Project-specific environmental effects relating to Geology and Soils will be mitigated to a less-than-significant level.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
<p>6. <u>HAZARDS</u></p> <p>Would the project:</p> <p>A) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities?</p>			X
<p>B) Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials?</p>			X
<p>C) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities?</p>			X

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact is considered significant if the proposed project would:

- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;
- expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials; or
- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

The Master EIR evaluated effects of development on hazardous materials, emergency response and aircraft crash hazards. See Chapter 6.6. Implementation of the General Plan may result in the exposure of people to hazards and hazardous materials during construction activities, and exposure of people to hazards and hazardous materials during the life of the General Plan. Impacts identified related to construction activities and operations were found to be less than significant. Policies included in the 2030 General Plan, including PHS 3.1.1 (investigation of

sites for contamination) and PHS 3.1.2 (preparation of hazardous materials actions plans when appropriate) were effective in reducing the identified impacts.

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTIONS

QUESTIONS A-C

The City is responsible for the post-closure maintenance of the landfill. Closure maintenance and monitoring facilities and other activities currently in place in various areas of the project site include a clay cap and liner, leachate collection and removal facilities, a groundwater dewatering system, grading and drainage facilities, a methane control/landfill gas recovery system, groundwater quality monitoring wells, and permanent survey equipment. These activities are regulated by the County of Sacramento, Environmental Management Department as the Local Enforcement Agency (LEA), the Central Valley Regional Water Quality Control Board (CVRWQCVB), and the California Integrated Waste Management Board (CIWMB). The City continues to monitor and provide maintenance as directed by the Final Postclosure Maintenance Plan. Therefore, it is not anticipated that solar module construction workers or maintenance workers would come into contact with contaminated soils.

No hazardous materials would be associated with construction, operation or removal of the solar modules.

MITIGATION MEASURES

None required.

FINDINGS

The project would have a less-than-significant effect relating to hazards.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
<p>7. <u>HYDROLOGY AND WATER QUALITY</u> Would the project:</p> <p>A) Substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the project?</p>			X
<p>B) Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood ?</p>			X

SCS Engineers evaluated the effects of the proposed solar park on the existing landfill cover drainage system. The report is discussed below, and included with this Initial Study as Attachment C.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts to hydrology and water quality may be considered significant if construction and/or implementation of the Proposed Project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

- substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the Specific Plan or
- substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

Chapter 6.7 of the Master EIR evaluates the potential effects of the 2030 General Plan as they relate to surface water, groundwater, flooding, stormwater and water quality. Potential effects include water quality degradation due to construction activities (Impacts 6.7-1, 6.7-2), and exposure of people to flood risks (Impacts 6.7-3, 6.7-4). Policies included in the 2030 General Plan, including a directive for regional cooperation (Policies ER 1.1.2, EC 2.1.1, EC 2.1.1), comprehensive flood management (Policy EC 2.1.14), and construction of adequate drainage facilities with new development (Policy U 4.1.1) were identified that reduced all impacts to a less-than-significant level.

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTIONS

QUESTION A

The Master EIR includes a discussion of water quality and discharges of stormwater from sites within the City, and that discussion is incorporated here by reference. See Master EIR, pages 6.7-13 and following. One of the most important of the features is the requirement that the applicant comply with the point discharge requirements under the National Pollutant Discharge Elimination System (NPDES) permits.

The City's grading ordinance (City Code Chapter 15.88) regulates development conditions to prevent erosion, and prevents pollution of watercourses with sediments and other materials. In addition, the City's Department of Utilities implements policies and guidelines regulating grading, erosion control, stormwater drainage design, inspection and permitting for grading and construction.

The proposed photovoltaic system would be built in modules of 28 landscape-oriented solar modules that are supported by aluminum structures, each of which would rest on four concrete ballast footings (71" x 20" x 14"). These concrete footings would be placed on 0.5' to 1.0' thick pads of coarse gravel.

Rainfall that lands on the surface of the solar modules would run over the surface of the landfill before being directed to the existing ditch that collects stormwater. The volume of runoff would not be sufficient to increase runoff from the site. The only place where stormwater can no longer penetrate is at the ballast locations. These cover approximately 1% of the site, and there would be an increase in runoff due to the solar installation of approximately 1%. This increase is not substantial, and would not alter current practices at the landfill site regarding stormwater retention and discharge. Any impact would be less than significant.

QUESTION B

The project site is located in X flood zone. This designates an area outside the 500-year flood plain. Development of the site would not result in any new significant environmental effect related to flooding.

MITIGATION MEASURES

None required.

FINDINGS

The project would have no significant effects relating to Hydrology and Water Quality.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
8. <u>NOISE</u>			
Would the project:			
A) Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases?			X
B) Result in residential interior noise levels of 45 dBA L _{dn} or greater caused by noise level increases due to the project?			X
C) Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance?			X
D) Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction?			X
E) Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations?			X
F) Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic?			X

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts due to noise may be considered significant if construction and/or implementation of the Proposed Project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

- result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases;

- result in residential interior noise levels of 45 dBA L_{dn} or greater caused by noise level increases due to the project;
- result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;
- permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction;
- permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations; or
- permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

The Master EIR evaluated the potential for development under the 2030 General Plan to increase noise levels in the community. New noise sources include vehicular traffic, aircraft, railways, light rail and stationary sources. The general plan policies establish exterior (Policy EC 3.1.1) and interior (EC 3.1.3) noise standards. A variety of policies provide standards for the types of development envisioned in the general plan. See Policy EC 3.1.8, which requires new mixed-use, commercial and industrial development to mitigate the effects of noise from operations on adjoining sensitive land use, and Policy 3.1.9, which calls for the City to limit hours of operations for parks and active recreation areas to minimize disturbance to nearby residences. Notwithstanding application of the general plan policies, noise impacts for exterior noise levels (Impact 6.8-1) and interior noise levels (Impact 6.8-2), and vibration impacts (Impact 6.8-4) were found to be significant and unavoidable.

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTIONS

QUESTIONS A-C

Construction activities associated with the proposed project would generate noise due to truck travel and construction activities. This is a temporary impact. The City of Sacramento Noise Ordinance (City Code Title 8, Chapter 8.68 et seq.) exempts construction-related noise if the construction takes place between the hours of 7:00 a.m. and 6:00 p.m., on Monday through Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday. Operations outside of these hours would be subject to the limits set forth in the ordinance. The project would not include construction activities that could generate significant ground vibration, such as pile driving. The project would not result in any additional significant environmental effect due to noise.

The proposed project would construct and operate a solar park consisting of solar modules mounted on racks, and resulting in generation of electricity. There would be no powered equipment on the site, and the solar park would produce no noise or vibration. No housing

would be constructed as part of the project.

Solar modules would be installed along the Business 80 freeway frontage. The modules would be installed above the freeway grade, and would be tilted to the south at twenty degrees to maximize solar exposure. To the extent that freeway noise were to be reflected by these modules, the noise would be directed upward and away from residential areas.

Any impacts would be less than significant.

QUESTIONS D-F

The project site is level, and no buildings have been proposed as part of the project. No operations have been proposed that could generate substantial levels of vibration. There would be no additional significant environmental effects.

MITIGATION MEASURES

No mitigation required.

Findings

The project would not result in any significant effects relating to noise.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No significant environmental effect
<p>9. <u>PUBLIC SERVICES</u></p> <p>Would the project result in the need for new or altered services related to fire protection, police protection, school facilities, roadway maintenance, or other governmental services beyond what was anticipated in the 2030 General Plan?</p>			X

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact would be considered significant if the project resulted in the need for new or altered services related to fire protection, police protection, school facilities, roadway maintenance, or other governmental services beyond what was anticipated in the 2030 General Plan.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

The Master EIR evaluated the potential effects of the 2030 General Plan on various public services. These include parks (Chapter 6.9) and police, fire protection, schools, libraries and emergency services (Chapter 6.10).

The general plan provides that adequate staffing levels for police and fire are important for the long-term health, safety and well-being of the community (Goal PHS 1.1, PHS 2.1). The Master EIR concluded that effects would be less than significant.

General plan policies that call for the City to consider impacts of new development on schools (see, for example, Policy ERC 1.1.2 setting forth locational criteria, and Policy ERC 1.1.5 that encourages joint-use development of facilities) reduced impacts on schools to a less-than-significant level. Impacts on library facilities were also considered less than significant (Impact 6.10-8).

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTION

The project would construct and operate a solar park at the Sutter's Landing Park. The solar modules would include security fencing and would not result in additional demand for police services. The site has adequate access for fire protection, and the operation of the solar park would not result in new fire hazards. The project would not require other services.

No residences will be constructed as part of the project. There would be no impact on schools.

MITIGATION MEASURES

None required.

FINDINGS

The project would have no significant environmental effects relating to Public Services.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
<p>10. <u>RECREATION</u> Would the project:</p> <p>A) Cause or accelerate substantial physical deterioration of existing area parks or recreational facilities?</p>			X
<p>B) Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2030 General Plan?</p>			X

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts to recreational resources are considered significant if the proposed project would do either of the following:

- cause or accelerate substantial physical deterioration of existing area parks or recreational facilities; or
- create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2030 General Plan.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

Chapter 6.9 of the Master EIR considered the effects of the 2030 General Plan on the City’s existing parkland, urban forest, recreational facilities and recreational services. The general plan identified a goal of providing an integrated park and recreation system in the City (Goal ERC 2.1). New residential development will be required to dedicate land, pay in-lieu fees or otherwise contribute a fair share to the acquisition and development of parks and recreation facilities. (Policy ERC 2.2.4) Impacts were considered less than significant after application of the applicable policies. (Impacts 6.9-1 and 6.9-2)

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None required.

ANSWERS TO CHECKLIST QUESTIONS

QUESTIONS A AND B

The project would construct and operate a solar park on portions of the Sutter's Landing Park site. The Sutter's Landing Park Master Plan was adopted in 2003. See Attachment A. The Master Plan listed only future uses for WMU A and WMU B (east end) as natural areas: disc golf, hiking trails, historical/natural interpretive signage, mountain biking and viewing/overlook areas. Any park improvements made since then have been considered by the City Department of Parks and recreation to be in substantial compliance with this Plan. The proposed solar park is considered an "interim use" that is not a recreation use and no Master Plan amendment is required.

The proposed solar project is a Department of Utilities sponsored project on City property that has not been released yet for park development because the landfill cannot yet support park development. The solar project is not a park project. It is located at a site designated for a future park. The time period for the solar use may extend beyond the landfill closure period, depending on the progress of post-closure activities.

The City maintains a web site devoted to Sutter's Landing Park. See <http://www.cityofsacramento.org/dsd/planning/new-growth/SuttersLanding.cfm>

Construction and operation of the solar park would not interfere with other uses that take place at Sutter's Landing Park. At the conclusion of the lease period the solar modules would be removed, and WMU A and WMU B would be available for development as park uses. Impacts to recreation would be less than significant.

MITIGATION MEASURES

None required.

FINDINGS

The project would have no significant environmental effects relating to Recreation.

Issues:	Effect remains significant with all identified mitigation	Effect can be mitigated to less than significant	No additional significant environmental effect
<p>11. TRANSPORTATION AND CIRCULATION Would the project:</p> <p>A) Roadway segments: degrade peak period Level of Service (LOS) from A,B,C or D (without the project) to E or F (with project) or the LOS (without project) is E or F, and project generated traffic increases the Volume to Capacity Ratio (V/C ratio) by 0.02 or more.</p>			X
<p>B) Intersections: degrade peak period level of service from A, B, C or D (without project) to E or F (with project) or the LOS (without project) is E or F, and project generated traffic increases the peak period average vehicle delay by five seconds or more.?</p>			X
<p>C) Freeway facilities: off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway; project traffic increases that cause any ramp's merge/diverge level of service to be worse than the freeway's level of service; project traffic increases that cause the freeway level of service to deteriorate beyond level of service threshold defined in the Caltrans Route Concept Report for the facility; or the expected ramp queue is greater than the storage capacity?</p>			X
<p>D) Transit: adversely affect public transit operations or fail to adequately provide for access to public?</p>			X
<p>E) Bicycle facilities: adversely affect bicycle travel, bicycle paths or fail to adequately provide for access by bicycle?</p>			X
<p>F) Pedestrian: adversely affect pedestrian travel, pedestrian paths or fail to adequately provide for access by pedestrians?</p>			X

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts resulting from changes in transportation or circulation may be considered significant if construction and/or implementation of the Proposed Project

would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

Roadway Segments

- A) the traffic generated by a project degrades peak period Level of Service (LOS) from A,B,C or D (without the project) to E or F (with project) or
- B) the LOS (without project) is E or F, and project generated traffic increases the Volume to Capacity Ratio (V/C ratio) by 0.02 or more.

Intersections

- the traffic generated by a project degrades peak period level of service from A, B, C or D (without project) to E or F (with project) or
- the LOS (without project) is E or F, and project generated traffic increases the peak period average vehicle delay by five seconds or more.

Freeway Facilities

Caltrans considers the following to be significant impacts.

- off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway;
- project traffic increases that cause any ramp's merge/diverge level of service to be worse than the freeway's level of service;
- project traffic increases that cause the freeway level of service to deteriorate beyond level of service threshold defined in the Caltrans Route Concept Report for the facility; or
- the expected ramp queue is greater than the storage capacity.

Transit

- adversely affect public transit operations or
- fail to adequately provide for access to public transit.

Bicycle Facilities

- adversely affect bicycle travel, bicycle paths or
- fail to adequately provide for access by bicycle.

Pedestrian Circulation

- adversely affect pedestrian travel, pedestrian paths or
- fail to adequately provide for access by pedestrians.

SUMMARY OF ANALYSIS UNDER THE 2030 GENERAL PLAN MASTER EIR, INCLUDING CUMULATIVE IMPACTS, GROWTH INDUCING IMPACTS, AND IRREVERSIBLE SIGNIFICANT EFFECTS

Transportation and circulation were discussed in the Master EIR in Chapter 6.12. Various modes of travel were included in the analysis, including vehicular, transit, bicycle, pedestrian and aviation components. The analysis included consideration of roadway capacity and identification of levels of service, and effects of the 2030 General Plan on the public transportation system. Provisions of the 2030 General Plan that provide substantial guidance include Goal Mobility 1.1, calling for a transportation system that is effectively planned, managed, operated and maintained, promotion of multimodal choices (Policy M 1.2.1), identification of level of service standards (Policy M 1.2.2), development of a fair share funding system for Caltrans facilities (Policy M 1.5.6) and development of complete streets (Goal M 4.2).

While the general plan includes numerous policies that direct the development of the City's transportation system, the Master EIR concluded that the general plan development would result in significant and unavoidable effects. See Impacts 6.12-1, 6.12-8 (roadway segments in the City), Impacts 6.12-2, 6.12-9 (roadway segments in neighboring jurisdictions), and Impacts 6.12-3, 6.12-10 (freeway segments).

MITIGATION MEASURES FROM 2030 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None.

ANSWERS TO CHECKLIST QUESTIONS A-F

Construction of the proposed project would require delivery of materials to the project site. Materials include the solar modules, the racks upon which the modules are displayed, and the concrete ballasts that act as anchors for the racks. Delivery would be via semi-trucks and trailers.

Trucks entering and leaving the project site would use truck routes designated by the City. City Code section 10.24.010 requires operators of vehicles of 10,000 pounds and greater to utilize designated truck routes. In this case, the primary truck route access to the project site is via E Street from Business 80, and north on 28th Street. Trucks leaving the site southbound on 28th Street would turn left onto C Street, and right onto 29th Street to obtain access to Business 80. Truck trips would occur only during project construction, and would utilize identified truck routes, and any impacts would be less than significant.

Racks would be constructed on the site, and modules attached to the racks by workers at the site. Workers would travel to the site via private automobiles. Approximately 25 persons would be employed at the site at any one time.

Such deliveries and travel to and from the site could include disruptions to the transportation network near the site, but it is unlikely that temporary lane closures, street closures, sidewalk closures, or bikeway closures would be required.

Operation of the solar park would generate negligible traffic. Maintenance activities occur only a few times per year and would involve only a few vehicle trips. Any impacts would be less than significant.

The project would have no impact on pedestrian or bicycle travel. There would be no impact on public transit.

MITIGATION MEASURES

Impacts are less than significant and no mitigation is required.

FINDINGS

The project would have no significant environmental effects relating Transportation.

Issues:	Effect will be studied in an EIR	Effect can be mitigated to less than significant	No significant environmental effect
12. UTILITIES AND SERVICE SYSTEMS			
Would the project:			
A) Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments?			X
B) Require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts?			X

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact would be considered significant if the project resulted in the need for new or altered services related to fire protection, police protection, or school facilities beyond what was anticipated in the 2030 General Plan:

- result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments or
- require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts.

ANSWERS TO CHECKLIST QUESTIONS

QUESTIONS A AND B

Neither construction nor operation of the solar park would require water service to the site. Solar panels are washed with water periodically to cleanse them of dirt. This occurs approximately four times per year, and would require approximately one acre foot of water annually. This is a relatively minor amount, and would not result in a significant impact to the City's water supply or service to customers.

The solar park would not require sewer service, natural gas or other utility service.

MITIGATION MEASURES

Impacts are less than significant and no mitigation is required.

FINDINGS

The project would have no significant environmental effects relating to Utilities and Service Systems.

MANDATORY FINDINGS OF SIGNIFICANCE

Issues:	Effect remains significant with all identified mitigation	Effect can be mitigated to less than significant	No significant environmental effect
13. MANDATORY FINDINGS OF SIGNIFICANCE			
A.) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X	
B.) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X
C.) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X

Answers to Checklist Questions

QUESTION A

The project would result in elimination of low-quality foraging habitat for the Swainson’s hawk. Mitigation would be required to replace habitat through credits at a mitigation bank or through purchase of appropriate land area. No cultural or historic resources have been identified on the project site, and mitigation would ensure that discovery of unknown resources during project development would be identified and appropriate steps taken regarding treatment.

QUESTION B

The project would not result in any effects that are cumulatively significant. The project would generate electricity that would support activities described in the 2030 General Plan Master EIR, but would not result in additional significant cumulative effects that were not identified and discussed in the Master EIR.

QUESTION C

The proposed project would develop the project site with a solar park. None of the project activities proposed would adversely affect human beings. Project impacts relating to air quality and hazards have been considered in the initial study. No significant adverse effects on human beings have been identified.

SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

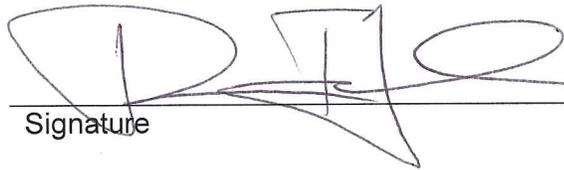
The environmental factors checked below would potentially be affected by this project.

	Light and Glare		Hazards
X	Air Quality		Noise
X	Biological Resources		Public Services
X	Cultural Resources		Recreation
	Energy and Mineral Resources		Transportation/Circulation
X	Geology and Soils		Utilities and Service Systems
	Hydrology and Water Quality		
	None Identified		

SECTION V - DETERMINATION

On the basis of the initial study:

I find that the discussions of cumulative impacts, growth inducing impacts, and irreversible significant effects in the Master EIR are adequate for the proposed project; and that any significant effects of the project could be reduced to a less-than-significant level. A Mitigated Negative Declaration will be prepared. Mitigation measures from the Master EIR will be applied to the project as appropriate, and additional feasible mitigation measures and alternatives will be incorporated to revise the proposed project before the Mitigated Negative Declaration is circulated for public review, to avoid or mitigate the identified effects to a level of insignificance. (CEQA Guidelines Section 15178(b))



Signature

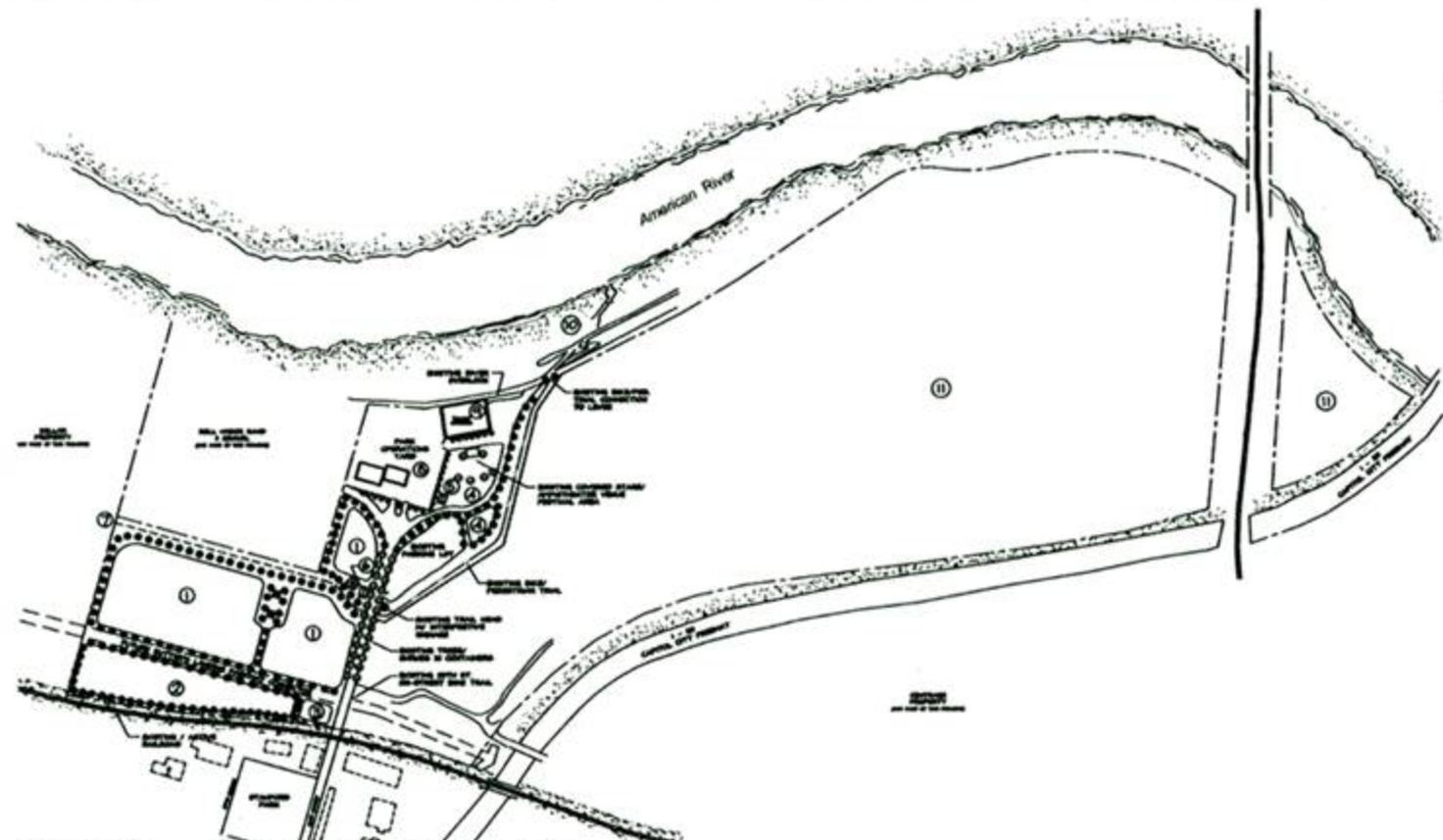
September 13, 2011

Date

Tom Buford, Senior Planner
Printed Name

Solar Photovoltaic Park at 28th Street Landfill

Attachment A: Sutter's Landing Park Master Plan



**PROPOSED
RECREATION CAMPUS LEGEND**

1. ACTIVE RECREATION COURT / FIELD AREAS
BASKETBALL
BMX BIKING
ROLLER HOCKEY
SAND VOLLEYBALL
SKATEPARK
SOCCER / FIELD SPORTS
VELODROME
2. DOG PARK AREA
3. NEH PARKING AREA
4. PASSIVE RECREATION COURT AREAS
BOCCE BALL
GAME TABLES / SHUFFLE BOARD
GIANT CHESS / BOARD GAMES
WALKING MAZE / MAPS
5. RESTROOM
6. CONCESSION / RESTROOM
RECREATION STATION
7. CONNECTION TO THE RIVERS
BIKE TRAIL
8. PARK OPERATIONS/
RECREATION OFFICES
OPTIONAL FUTURE DEVELOPMENT
9. EXISTING BALER BUILDING
LIGHTED / COVERED
RECREATION AREA
10. FUTURE RIVER
ACCESS W/ COUNTY
BIKE / HIKING TRAILS
HAND CARRY BOAT LAUNCH
(CANOES / KAYAKS / RAFTS)
PICNIC AREA
11. FUTURE NATURAL AREAS
DISC GOLF
HIKING TRAILS
HISTORICAL / NATURAL
INTERPRETIVE SIGNAGE
MOUNTAIN BIKING
VIEWING/ OVERLOOK AREAS

OVERALL MASTER PLAN FOR:
SUTTER'S LANDING PARK

CITY OF SACRAMENTO
DEPARTMENT OF PARKS AND RECREATION
SEPTEMBER 2003



LANDSCAPE ARCHITECT/PROJECT MANAGER: BOY TATHAN
DRAWN BY: MICHAEL ROBALDO

Solar Photovoltaic Park at 28th Street Landfill

Attachment B: Biological Resources Assessment,
AES, August 2, 2011



BIOLOGICAL RESOURCES ASSESSMENT
CITY OF SACRAMENTO
28TH STREET SOLAR PHOTOVOLTAIC FARM

AUGUST 2011

PREPARED FOR:

City of Sacramento
Dept. of Parks and Recreation
915 I Street, Fifth Floor
Sacramento, CA 95814



PREPARED BY:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
(916) 447-3479
www.analyticalcorp.com



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Attachment 1 USFWS, CNDDDB, and CNPS Lists

Attachment 2 Plants and Wildlife Observed Within the Study Area

Attachment 3 Regionally Occurring Special Status Species and Their Designated Critical Habitat

PURPOSE

This Biological Resources Assessment (BRA) documents sensitive biological habitats and special status species that have the potential to occur on or be affected by the City of Sacramento's Sutter's Landing Park/ 28th Street Landfill Solar Photovoltaic Park Project (proposed project), located in the City of Sacramento, California (**Figure 1**). This BRA has been prepared on behalf of the City of Sacramento (City) and has been prepared for use in permit applications and environmental review conducted in accordance with the California Environmental Quality Act (CEQA).

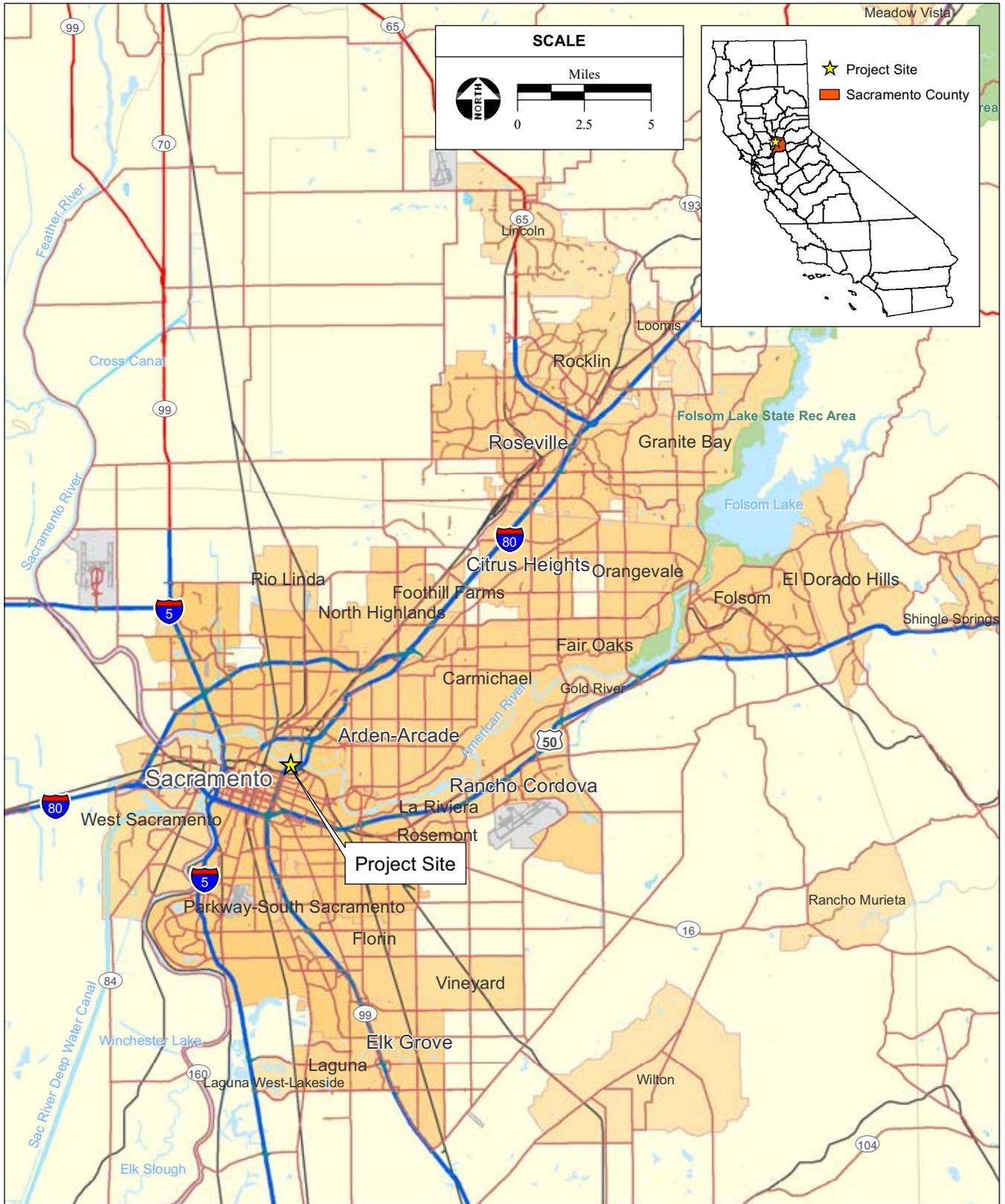
PROJECT LOCATION AND BACKGROUND

The approximately 180-acre study area is located within the Sutter's Landing Park/City of Sacramento's 28th Street Landfill on Assessor's Parcel Numbers 001-0170-018, 001-0170-021, and 001-0170-026, in the City of Sacramento, California. The study area is located at the northern end of 28th Street, in the northeast area of downtown Sacramento. The site is bordered by the American River to the north, Business Interstate 80 to the south, Southern Pacific Railroad tracks to the east, and industrial properties to the west.

The study area is located on Section 32 of Township 9 North, Range 5 East, of the Sacramento East, California, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad), Mount Diablo Baseline and Meridian. The centroid of the study area is 38° 35' 12.5" North, 121° 77' 9.7" West. A topographic map and an aerial photograph of the study area are shown in **Figures 2** and **3**, respectively.

The study area is owned by the City and has historically been operated as the 28th Street Landfill until it was closed in 1997. The majority of the former 28th Street Landfill was used for the disposal of non-hazardous, inert residential, commercial, and industrial municipal solid wastes. The entire site was designated a park by the City Council in November 1995. The southwestern portion of the study area, which is currently partially developed as part of Sutter's Landing Park, was previously used as a burn dump as late as the 1950s (City of Sacramento, 2011). In 2004 the California Regional Water Quality Control Board adopted the Waste Discharge Requirements (Order Number R5-2004-0039) to prescribe the requirements for post-closure maintenance and monitoring of the closed landfill. The Landfill consists of 3 designated "waste management units" or WMU. The majority of the proposed project would involve activities on WMU A and WMU B, with some improvements on the WMU located on the west side of 28th Street. The third WMU is known as the Old Landfill, and is also subject to post-closure requirements. The facilities associated with the maintenance include gas monitoring wells, groundwater monitoring wells, and surface maintenance equipment during the summer to address settlement, mowing the grass for fire control, and drainage as the solid waste decomposes. The earliest post-closure maintenance requirement ends in 2027.

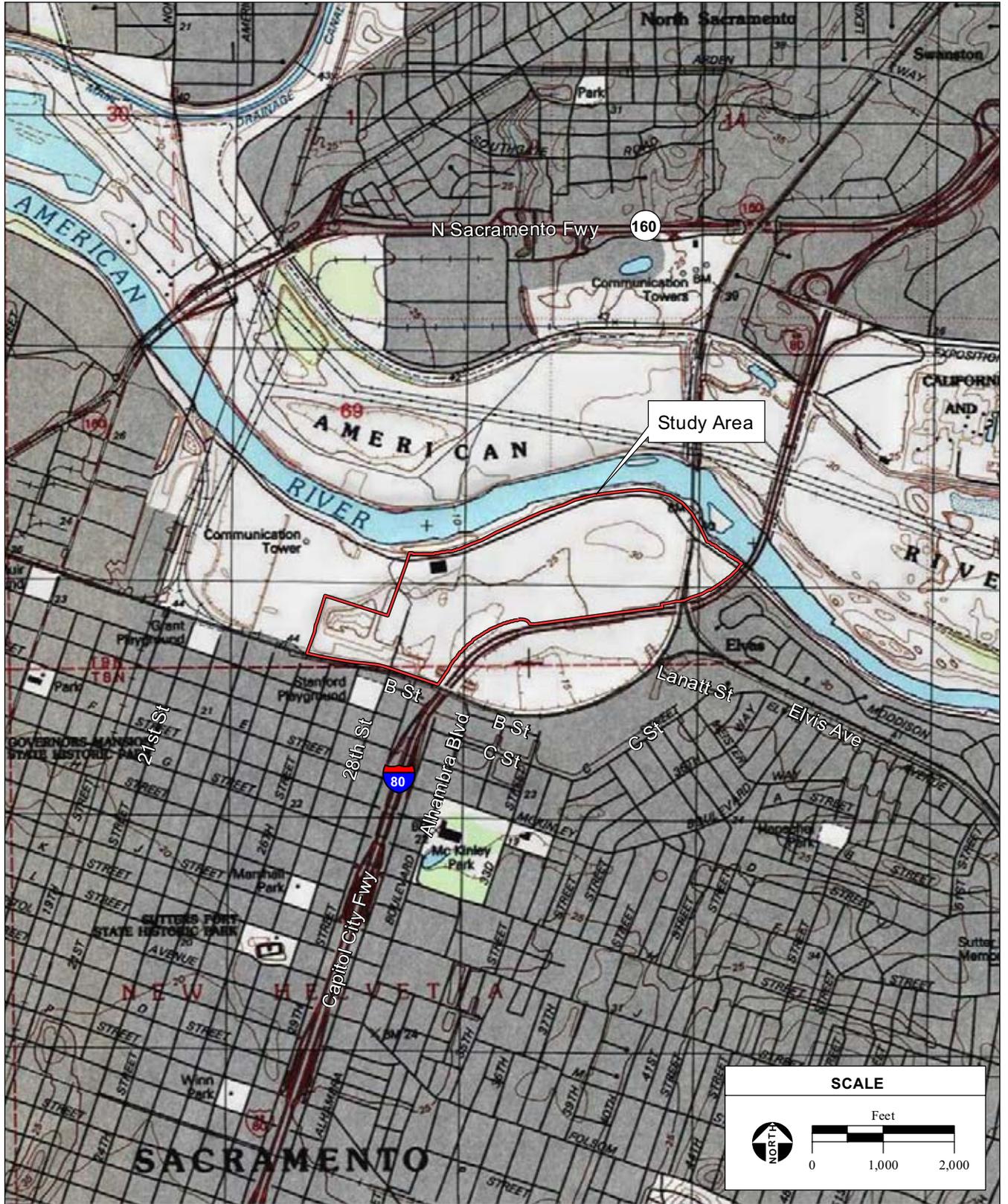
The land use designation for the study area in the 2030 General Plan is Parks and Recreation (City of Sacramento, 2009). The study area is zoned A-OS-PC (Agriculture-Open Space-Parkway Corridor). The PC designation reflects the study area's location within the American River Parkway Corridor, which is an overlay zone in the City Municipal Code (Chapter 17.160). Surrounding land uses, include recreational open space to the north, residential to the east, undeveloped lands zoned for residential uses to the



SOURCE: StreetMap North America, 2009; AES 2011

City of Sacramento 28th Street Solar Photovoltaic Farm BRA / 211526 ■

Figure 1
Regional Location



SOURCE: "Sacramento East, CA" USGS 7.5 Minute Topographic Quadrangle, T9N, R5E, Unsectioned Area of New Helvetia, Mt. Diabale Baseline & Meridian; AES, 2011

City of Sacramento 28th Street Solar Photovoltaic Farm BRA / 211526 ■

Figure 2
Site and Vicinity



Figure 3
Aerial Photograph

south, and industrial uses to the west. Recreational activities that occur onsite include a dog park, a skate park, parkway trail access to the American River bike trail, and related vehicle parking.

Current Maintenance Practices

An ongoing soils maintenance program occurs within the managed nonnative grassland. The majority of the program is done in the summer to prevent damage to the cap of the landfill. Every summer a visual survey of the landfill is conducted to locate where settlement has occurred and where water is not draining. The survey is usually conducted in May when the grass is cut and the surface of the landfill is more visible. A work plan and schematic of the landfill is developed showing the areas that settled or where erosion has occur within the last year. These areas are filled in using clean dirt, either from an existing stock pile on the site or from construction sites located within the City. Imported soils are tested for hazardous materials at a lab prior to use at the landfill.

The low areas are filled in and the soil is compacted using a water truck to moisten the soil and tracked in using a grader and other available equipment. The compaction ratio is approximately 800 to 1,000 pounds per cubic foot. This prevents water from perking through the landfill cover and into the garbage below, producing leachate. The compaction also prevents wildlife species from burrowing into the landfill cover. At the same time, the drainage ditches are graded and the areas along the gas collection pipelines and around the wells and probes located across the landfill surface are weeded.

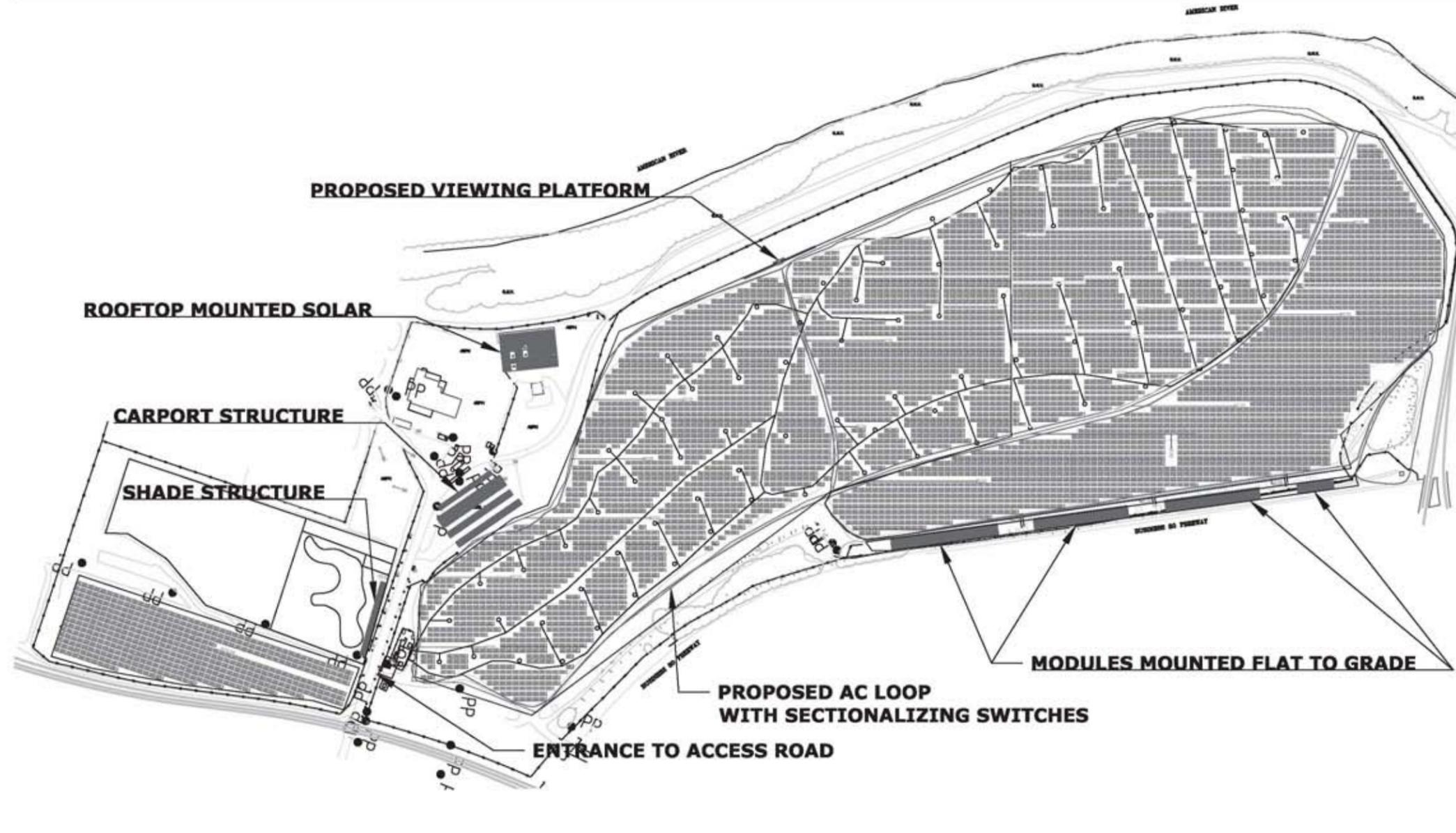
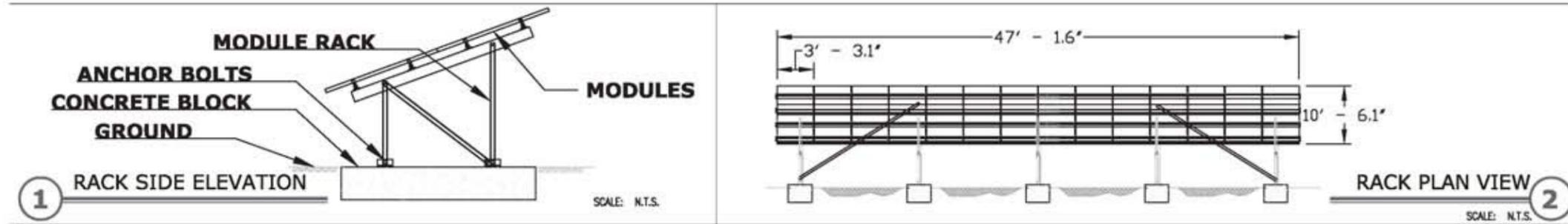
PROJECT DESCRIPTION

The City proposes to construct a photovoltaic solar park at the closed landfill and other areas of Sutter's Landing Park (**Figure 4**). The project site includes all areas where facility construction staging, construction, operation, and decommissioning would occur within the study area. The proposed project includes installation of solar modules within and adjacent to the closed landfill (i.e., within and adjacent to managed grasslands and methane collection systems), operation of the modules to produce and sell electricity, and removal of the solar installation at the conclusion of the lease term. Operation of the solar park by a solar operator would be pursuant to a lease agreement with the City.

Project Components

The solar facility would produce electricity through the installation and use of solar modules. Each solar module is approximately 5 feet high, 3 feet wide, and 1.8 inches deep. The proposed project includes the installation of approximately 83,000 modules on the landfill mound, 2,912 modules near Business Route 80, and additional solar modules on the project site to generate the desired level of electricity. Solar modules would be mounted on racks that would tilt each module approximately 20 degrees to face the south. Some panels would be mounted on shade structures on the developed portion of Sutter's Landing Park with the same tilt angle.

Each rack would hold 14 modules mounted next to each other with 0.5-inch spacing. The individual racks would be separated by approximately 1.5 feet. Taking into account that modules would be installed at a 20 degree angle, the distance between each row of modules would be approximately 9 feet. The modules closest to Business Route 80 would be approximately 40 feet from the right of way. The majority



of the solar modules would be installed on the landfill “mound” east of 28th Street and a disturbed area located north of the railroad tracks. Other modules would be located on shade structures installed to support solar panels in other areas of the park, and along Business Route 80. A viewing tower and walkway would be constructed to oversee the solar facility. The overall area where solar modules are proposed to be installed consists of approximately 104 acres.

Electrical current generated by the solar modules would feed into approximately 20 onsite inverters to change the DC electrical current generated by the modules to AC current for delivery to the grid via the Sacramento Municipal Utilities District (SMUD) infrastructure. Each inverter is approximately 6 feet high, 11 feet long, and 3 feet deep. Each inverter is enclosed in a metal box to protect the equipment. Electrical lines required for the operation of the solar panels would be located in utility corridors on the ground surface. Electrical current generated at the project site would be routed to the SMUD sub-station located on the east side of 28th Street via existing overhead power lines.

No grading of the project site would occur in connection with the installations. Excavation would only be required for footers for the shade structures and panels located in areas with slope, including those along Business Route 80. Fill material would be imported for any excavations to avoid conflict with the landfill post-closure requirements.

Vehicular access to the solar panels would be primarily via existing asphalt and improved roadways within the project site. Some temporary roadway access may be required during installation.

All inverters, switchgear, and monitoring equipment would be located on a concrete pad with a sheet roof for protection from the elements.

Construction, Operation and Removal

Construction is estimated to begin in 2012. The construction process would take approximately 2 to 4 months, but may be completed in phases over a 3-year period. The proposed project would employ a minimum of 25 people at any given time during construction. Development of the project site would require delivery of materials to staging areas for the construction of racks, which would be completed on the project site, delivery of the solar modules, construction of shade structures, installation of the racks and solar modules, and completion of electrical connections to the SMUD substation. Solar modules would be delivered in semi-trucks and trailers and offloaded at the project site for delivery to the installation location. Most of the work required during installation involves construction of racks, installation of the ballast, movement and placement of modules to the rack, and electrical wiring of the modules. Once installed, the solar modules would produce approximately 20 megawatts of electricity at full build out. Operation of the solar park requires annual inspection, maintenance, repair of the facilities, and periodic cleaning of panels, which involves several employees. At the end of the lease, the operator would remove all solar-related facilities from the project site. Panels would be removed by truck. The Sutter’s Landing Park/28th Street Landfill portion of the project site would be returned to its prior condition.

REGULATORY

Federal

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) implement the federal Endangered Species Act (FESA) of 1973 (16 USC Section 1531 et seq.). Under the FESA, threatened and endangered species on the federal list and their habitats (50 CFR Subsection 17.11, 17.12) are protected from “take” (i.e., activities that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) as well as any attempt to engage in any such conduct, unless a Section 10 permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered from the lead federal agency. Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present within the project site and vicinity and determine whether the proposed project will have a potentially significant impact upon such species. Under the FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Section 1536[3], [4]). Therefore, project-related impacts to these species, or their habitats, would be considered significant and require mitigation.

Under the FESA, critical habitat may be designated by the Secretary of the Interior for any listed species. The term "critical habitat" for a threatened or endangered species refers to the following: specific areas within the geographical range of the species at the time it is listed that contain suitable habitat for the species, which may require special management considerations or protection; and specific areas outside the geographical range of the species at the time it is listed that contain suitable habitat for the species and is determined to be essential for the conservation of the species. Under Section 7 of the FESA, all federal agencies (including the USFWS and NMFS) are required to ensure that any action they authorize, fund, or carry out will not likely jeopardize the continued existence of a listed species or modify their critical habitat.

Migratory Bird Treaty Act

Most bird species, especially those that are breeding, migrating, or of limited distribution, are protected under federal and/or state regulations. Under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Subsection 703-712), migratory bird species, their nests, and their eggs are protected from injury or death, and any project-related disturbances during the nesting cycle. As such, project-related disturbances must be reduced or eliminated during the nesting cycle.

Wetlands and Waters of the U.S.

The U.S. Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern waters of the U.S. (including wetlands), under Section 404 of the Clean Water Act (CWA). Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the U.S. The USACE requires that a permit be obtained if a project proposes the placement of structures within, over, or under navigable waters and/or discharging dredged or fill material into waters below the

ordinary high water mark (OHWM). The USACE has established a series of nationwide permits (NWP) that authorize certain activities in waters of the U.S.

In addition, a Section 401 Water Quality Certification Permit is required to comply with CWA Sections 301, 302, 303, 306, and 307 and is regulated by the Regional Water Quality Control Board (RWQCB). Anyone that proposes to conduct a project that may result in a discharge to U.S. surface waters and/or waters of the state including wetlands (all types) year round and seasonal streams, lakes, and all other surface waters would require a federal permit. At a minimum, any beneficial uses lost must be replaced by a mitigation project of at least equal function, value, and area. Waste Discharge Requirement permits are required pursuant to California Water Code Section 13260 for any persons discharging or proposing to discharge waste, including dredge/fill, that could affect the quality of the waters of the state.

State

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of state-listed threatened and endangered species. Under the CESA, state agencies are required to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents. Under the CESA, the CDFG is responsible for maintaining a list of rare, threatened, and endangered species designated under state law (California Fish and Game Code 2070-2079). The CDFG also maintains lists of species of concern and fully protected species. Species of concern are those taxa that are considered sensitive and this list serves as a “watch list.” Pursuant to the requirements of the CESA, agencies reviewing proposed projects within their jurisdictions must determine whether any state-listed species have the potential to occur within a project site and if the proposed project would have any significant impacts upon such species. Project-related impacts to species on the CESA’s rare, threatened, and endangered list would be considered significant and require mitigation. The CDFG can authorize take if an incidental take permit is issued by the Secretary of the Interior or Commerce in compliance with the FESA, or if the director of the CDFG issues a permit under Section 2080 in those cases where it is demonstrated that the impacts are minimized and mitigated.

California Fish and Game Code Sections 1600-1616

Under Sections 1600-1616, the CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. It derives this jurisdiction under the CESA because the CDFG is responsible for the protection of fish or wildlife resources and their habitats (including wetlands). The CDFG provides comments on USACE Section 404 and 401 permits under the Fish and Wildlife Coordination Act, last amended in 1995. The CDFG is authorized under the California Fish and Game Code Sections 1600-1616 to develop mitigation measures and to enter into Lake or Streambed Alteration Agreements with applicants whose proposed projects would obstruct the flow of, or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams and wetlands.

Local

2030 General Plan: Environmental Resources Element

The following goal and policies from the 2030 General Plan, adopted March 3, 2009 and last amended November 30, 2010, address biological resources and guide the location, design, and quality of development to protect important biological resources including wildlife habitat, open space corridors, and ecosystems (City of Sacramento, 2009).

Goal ER 2.1: Natural and Open Space Protection. Protect and enhance open space, natural areas, and significant wildlife and vegetation in the City as integral parts of a sustainable environment within a larger regional ecosystem.

Policies:

- **ER 2.1.1 Resource Preservation.** The City shall encourage new development to preserve on-site natural elements that contribute to the community's native plant and wildlife species value and to its aesthetic character. (RDR/MPSP)
- **ER 2.1.2 Conservation of Open Space.** The City shall continue to preserve, protect, and provide access to designated open space areas along the American and Sacramento rivers, floodways, and undevelopable floodplains. (MPSP/IGC)
- **ER 2.1.4 Retain Habitat Areas.** The City shall retain plant and wildlife habitat areas where there are known sensitive resources (e.g., sensitive habitats, special status, threatened, endangered, candidate species, and species of concern). Particular attention shall be focused on retaining habitat areas that are contiguous with other existing natural areas and/or wildlife movement corridors. (RDR/IGC)
- **ER 2.1.5 Riparian Habitat Integrity.** The City shall preserve the ecological integrity of creek corridors, canals, and drainage ditches that support riparian resources by preserving native plants and, to the extent feasible, removing invasive nonnative plants. If not feasible, adverse impacts on riparian habitat shall be mitigated by the preservation and/or restoration of this habitat at a 1:1 ratio, in perpetuity. (RDR/IGC)
- **ER 2.1.7 Annual Grasslands.** The City shall preserve and protect grasslands and vernal pools that provide habitat for rare and endangered species. If not feasible, the mitigation of all adverse impacts on annual grasslands shall comply with state and federal regulations protecting foraging habitat for those species known to utilize this habitat. (RDR/IGC)
- **ER 2.1.10 Habitat Assessments.** The City shall consider the potential impact on sensitive plants for each project requiring discretionary approval and shall require preconstruction surveys and/or habitat assessments for sensitive plant and wildlife species. If the preconstruction survey and/or habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level or industry-recognized (if no protocol has been established) surveys shall be conducted; or (2) presence of the species shall be assumed to occur in suitable habitat on the project site. Survey Reports shall be prepared and submitted to the City and the CDFG or the USFWS (depending on the species) for further consultation and development of avoidance and/or mitigation measures consistent with state and federal law. (RDR)

- **ER 2.1.11 Agency Coordination.** The City shall coordinate with state and federal resource agencies (e.g., CDFG, USACE, and USFWS) to protect areas containing rare or endangered species of plants and animals. (IGC)

METHODOLOGY

Analytical Environmental Services (AES) obtained information for the study area from the following sources: a USFWS (2011) list, updated April 29, 2010, of federally listed species with the potential to occur on or be affected by projects on the Sacramento East quad; a California Native Plant Society (CNPS; 2011) inventory, dated April 25, 2011, of special status species known to occur on the Sacramento East quad and 8 surrounding quads (Taylor Monument, Rio Linda, Citrus Heights, Sacramento West, Carmichael, Clarksburg, Florin, and Elk Grove); a California Natural Diversity DataBase (CNDDDB) query, dated April 2, 2011, of special status species known to occur on the Sacramento East quad and 8 surrounding quads (CDFG, 2003); and CNDDDB records of special status species documented within 5 miles of the study area. The USFWS, CNDDDB, and CNPS lists are provided in **Attachment 1**.

Standard references used for the biology and taxonomy of plants include: Abrams (1951, 1960), CNPS (2011), CDFG (2003, 2009), Hickman, ed. (1993), Mason (1957), Munz (1959), and Sawyer and Keeler-Wolf (1995). Standard references used for the biology and taxonomy of wildlife include: Cornell Lab of Ornithology (2011), Ehrlich et al. (1988), Jennings and Hayes (1994), Peterson (1990), Sibley (2003), and Stebbins (2003).

FIELD SURVEY AND ANALYSIS

AES biologists Kelly Bayne, M.S. and Laura Burris conducted a biological survey on May 27, 2011. The biological survey consisted of conducting a botanical inventory, evaluating biological communities, documenting potential habitat for special status species with the potential to occur within the study area, and conducting an informal delineation of waters of the U.S. Plants and wildlife observed within the study area are identified in **Attachment 2**.

A table summarizing the regionally occurring special status species identified on the USFWS, the CNPS, and the CNDDDB lists is provided as **Attachment 3**. The table provides a rationale as to whether the species have the potential to occur within the study area. Presence of the species or their habitat was evaluated during the May 27, 2011 biological survey. Species without the potential to occur in the vicinity of the study area are not discussed further in this report.

ENVIRONMENTAL SETTING

Soil Types

The study area is comprised 3 soil types (NRCS, 2009). A soils map of the study area is provided in **Figure 5. Table 1** summarizes the soil types by map unit symbols, percentages mapped within the study area, and identifies the landforms for the soil types that are considered hydric (NRCS, 2010).



TABLE 1
SOIL TYPES WITHIN THE STUDY AREA

Soil Type	Map Unit Symbol	Hydric Soil	Hydric Landform Indicator	Percentage of Study Area
Columbia Sandy Loam, Drained, 0 to 2 Percent Slopes	117	Yes	Floodplains	37
Columbia-Urban Land Complex, Drained, 0 to 2 Percent Slopes	124	Yes	Floodplains/ Natural Levees	3
Dumps	136	No	N/A	60
Total				100

NRCS, 2009; 2010.

Habitat Types

Terrestrial habitat types within the study area include: managed nonnative grassland, elderberry savanna, cottonwood forest, and ruderal/developed areas. Aquatic habitat types within the study area include: ephemeral drainage ditch and concrete-lined detention basin. Terrestrial habitat types are discussed in detail below. Aquatic habitat types are discussed further under the *Potential Waters of the U.S.* section. Representative photographs of the habitat types within the study area are shown in **Figures 6a** and **6b**. A habitat map is provided in **Figure 7**. **Table 2** summarizes the acreages of habitat types within the study area.

TABLE 2
HABITAT TYPES BY ACREAGES WITHIN THE STUDY AREA

Habitat Type	Acreage
<i>Terrestrial</i>	
Managed Nonnative Grassland	125.33
Elderberry Savanna	4.76
Cottonwood Forest	1.02
Ruderal/Developed	47.83
<i>Aquatic</i>	
Ephemeral Drainage Ditch	0.03
Concrete-Lined Detention Basin	0.72
Total	179.69

¹GIS calculations may not reflect exact acreage of study area due to rounding.

AES, 2011



PHOTO 1: View west of nonnative grassland and elderberry shrub less than one inches diameter at ground level on the west side of the study area.



PHOTO 2: View east of mowed nonnative grassland on southwest side of study area.



PHOTO 3: View southeast of elderberry savanna on the east side of the study area.



PHOTO 4: View east of cottonwood forest on the southeast side of the study area.



PHOTO 5: View northeast of nonnative grassland within the northeast side of the study area. The American River is located outside of the north side of the study area.



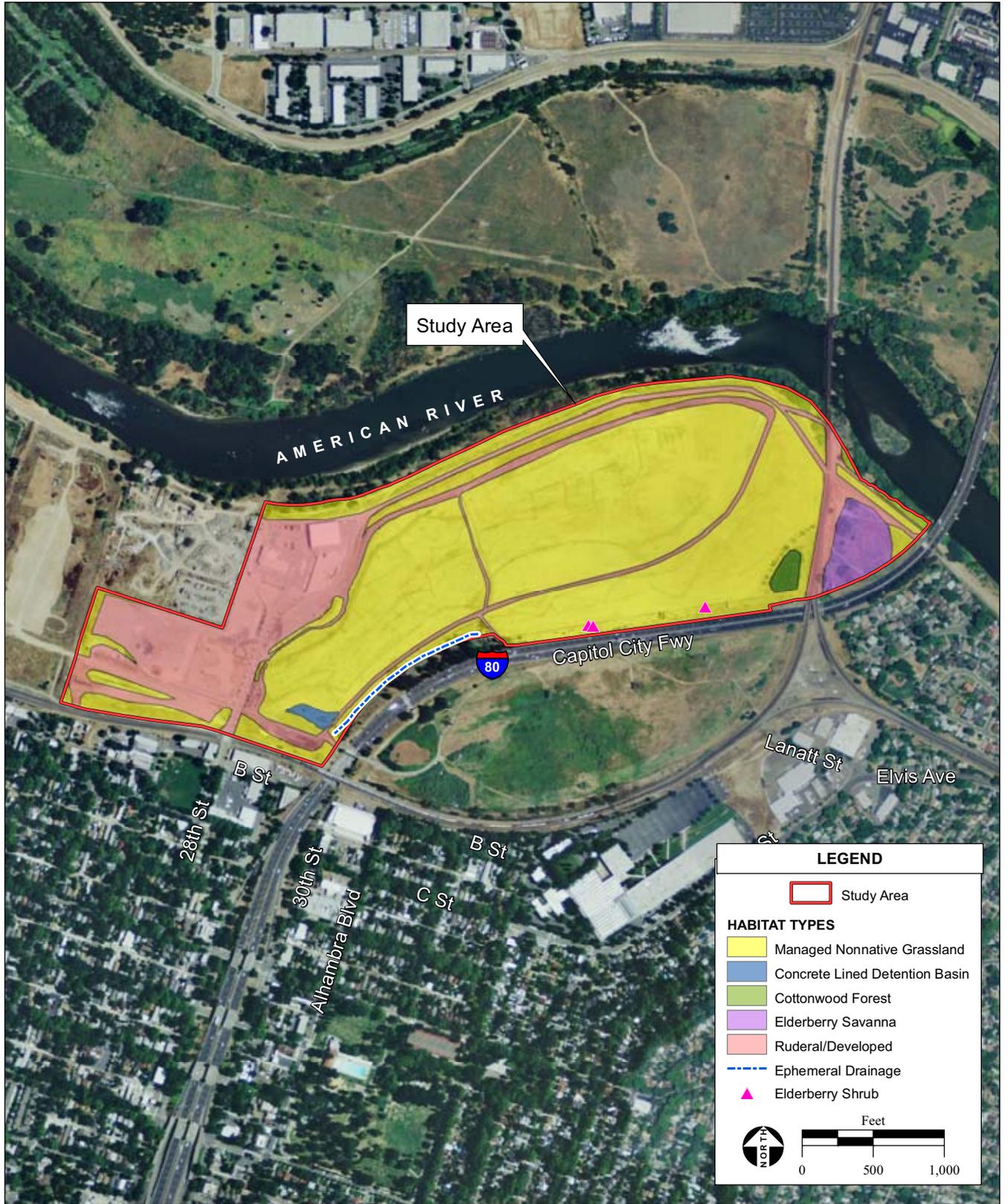
PHOTO 7: View southeast of concrete lined detention basin on the southwest side of the study area.



PHOTO 6: View southwest of ephemeral drainage ditch on the southwest side of the study area.



PHOTO 8: View of elderberry shrub on the south side of the study area.



Managed Nonnative Grassland

Managed nonnative grassland (nonnative grassland) occurs throughout the majority of the study area (**Figure 6a: Photographs 1 and 2; Figure 6b: Photograph 5**). The nonnative grassland is compacted on an annual basis as required by the 28th Street Landfill post-closure requirements and is regularly mowed¹ (Strauss, pers. comm., 2011). As identified within the description of current maintenance practices (page 5), burrowing rodents are actively controlled in the landfill closure area through maintenance activities associated with annual compaction and vegetation mowing. As a result of these activities, no burrows were observed within the managed nonnative grassland. Pipes are located throughout the nonnative grassland to collect methane gas and other gasses as a result of the breakdown of organic matter within the 28th Street Landfill. Dominant vegetation observed within the nonnative grassland included: wild oat (*Avena fatua*), hyssop loosestrife (*Lythrum hyssopifolia*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Zorro fescue (*Vulpia myuros*), plantain (*Plantago coronopus*), field hedge parsley (*Torilis arvensis*), foxtail barley (*Hordeum murinum*), and field bindweed (*Convolvulus arvensis*). Two elderberry (*Sambucus mexicanus*) shrubs with stems less than one-inch diameter at ground level (dgl) were observed growing in containers surrounding pipe valves within the western portion of the nonnative grassland, and several shrubs with stems greater than one-inch dgl were observed in isolated locations in the southern portion of the nonnative grassland. The locations of shrubs with stems greater than one-inch dgl are shown in **Figure 7**. These shrubs are discussed further under the *Special Status Wildlife* section.

Elderberry Savanna

Elderberry savanna occurs within the southeast portion of the study area, east of the railroad tracks (**Figure 6a: Photograph 3**). Elderberry shrubs are the dominant overstory species observed within this habitat type. Other overstory vegetation observed within this habitat type includes: willow (*Salix* sp.), box elder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Dominant understory vegetation observed within this habitat type includes: Himalayan blackberry, milk thistle (*Silybum marianum*), common sow thistle (*Sonchus oleraceus*), field hedge parsley, and wild grape (*Vitis californica*).

Cottonwood Forest

Cottonwood forest occurs within the southeast portion of the study area (**Figure 6a: Photograph 4**). The cottonwood forest occurs in a low area that appears to have been historically used as a detention basin. Fremont cottonwoods (*Populus fremontii*) are the dominant overstory species observed within this habitat type. Other overstory vegetation observed within this habitat type includes: box elder, Oregon ash, interior live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), and Northern California black walnut (*Juglans hindsii*). Understory vegetation associated with this habitat type is comprised primarily of upland species including: oat, soft chess, hedgehog dogtail (*Cynosurus echinatus*), Italian thistle (*Carduus pycnocephalus*), ripgut grass, field hedge parsley, and foxtail barley.

Ruderal/Developed

Ruderal/developed areas occur throughout the study area. These areas include the railroad tracks, paved and graded roads, road shoulders, and Sutter's Landing Park, which includes paved parking lots,

¹ At the time of the May 27, 2011 biological survey, several areas of the managed nonnative grassland had been recently mowed.

buildings, ornamental landscaping, and dog and skate parks. Dominant vegetation observed within the ruderal area of this habitat type includes: field bindweed, wild oat, and prickly lettuce (*Lactuca serriola*).

Potential Waters of the U.S.

Ephemeral Drainage Ditch

An approximately one-foot wide ephemeral drainage ditch occurs adjacent to a graded service road along the southwestern boundary of the study area (**Figure 6b: Photograph 6**). The ephemeral drainage ditch drains runoff from a eucalyptus grove located outside the southern boundary of the study area following precipitation events. The ephemeral drainage ditch drains southwestward and exits the southwestern boundary of the study area. No water was observed within the ephemeral drainage ditch during the May 27, 2011 biological survey of the study area. Vegetation associated with this feature is comprised primarily of upland species including: wild oat, ripgut grass, and Italian thistle.

Concrete-Lined Detention Basin

A concrete-lined detention basin occurs on the southwest portion of the study area (**Figure 6b: Photograph 7**). The concrete-lined detention basin is a manmade feature used to hold water received from runoff from the surrounding nonnative grassland and ruderal/developed areas following precipitation events. The basin appears to hold water until it evaporates. Water was observed during the May 27, 2011 biological survey of the study area. This feature lacks vegetation. This feature is not considered potential waters of the U.S. because it is manmade, lacks hydric vegetation and soils, and is an isolated feature that lacks connectivity to a potential waters of the U.S.

SPECIAL STATUS SPECIES

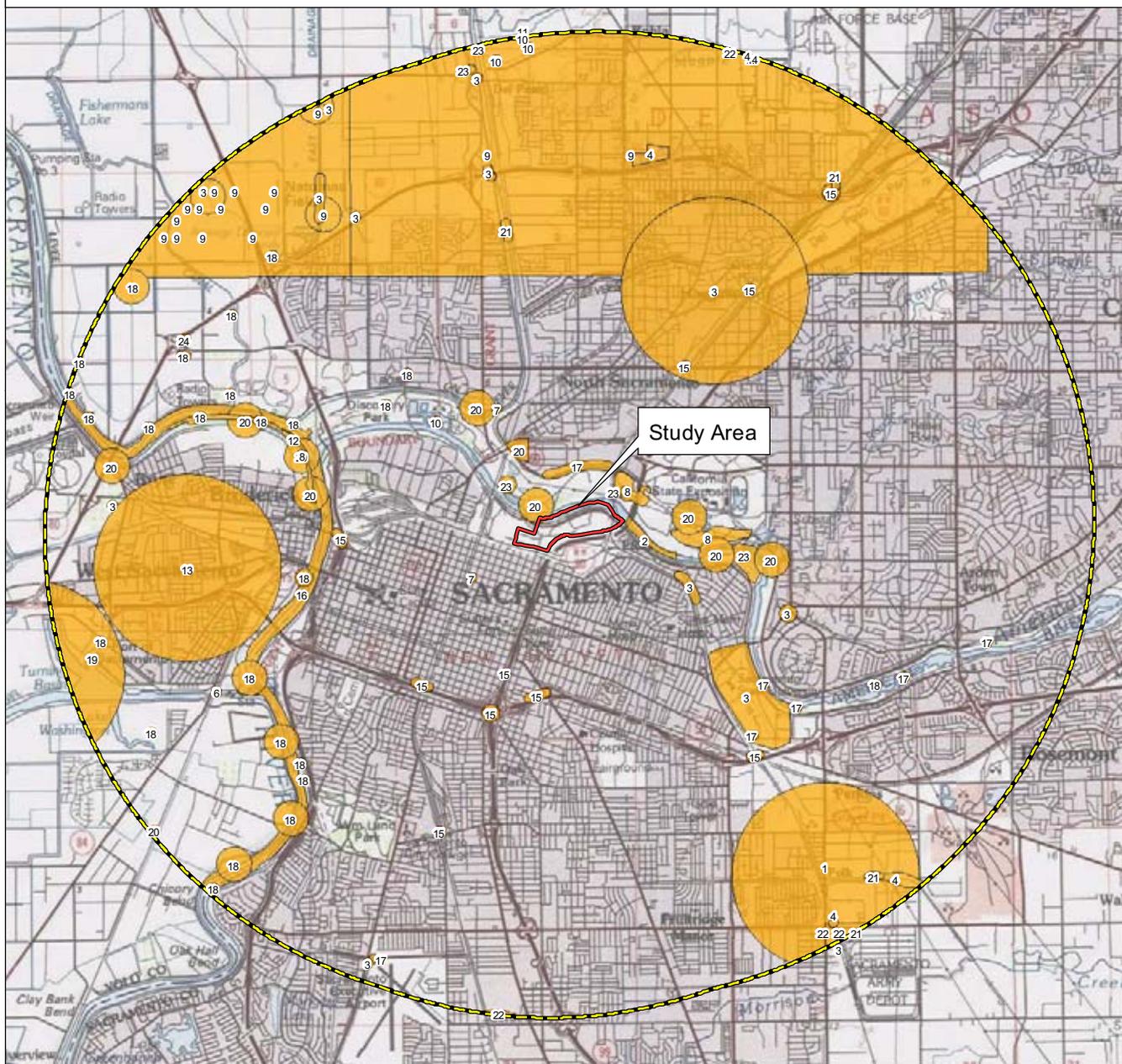
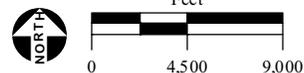
For the purposes of this assessment, special status has been defined to include those species that are:

- Listed as endangered or threatened under the FESA (or formally proposed for, or candidates for, listing);
- Listed as endangered or threatened under the CESA (or proposed for listing);
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as species of concern to the CDFG; or,
- Defined as rare or endangered under CEQA.

Attachment 3 provides a summary of regionally occurring special status species obtained from the USFWS, CNDDDB, and CNPS lists and evaluates whether the species have the potential to occur within the study area based on habitat types observed during the May 27, 2011 biological survey. Species without the potential to occur within the study area are not discussed further. Special status species with the potential to occur within the study area are discussed in detail below, including distances from the study area to reported CNDDDB occurrences (CDFG, 2003; 2011). A CNDDDB map of special status species documented within a 5-mile radius of the study area is provided in **Figure 8**. A critical habitat map in the vicinity of the study area is provided in **Figure 9**. The study area does not occur within critical habitat for any federally listed species.

SPECIAL STATUS SPECIES DATA

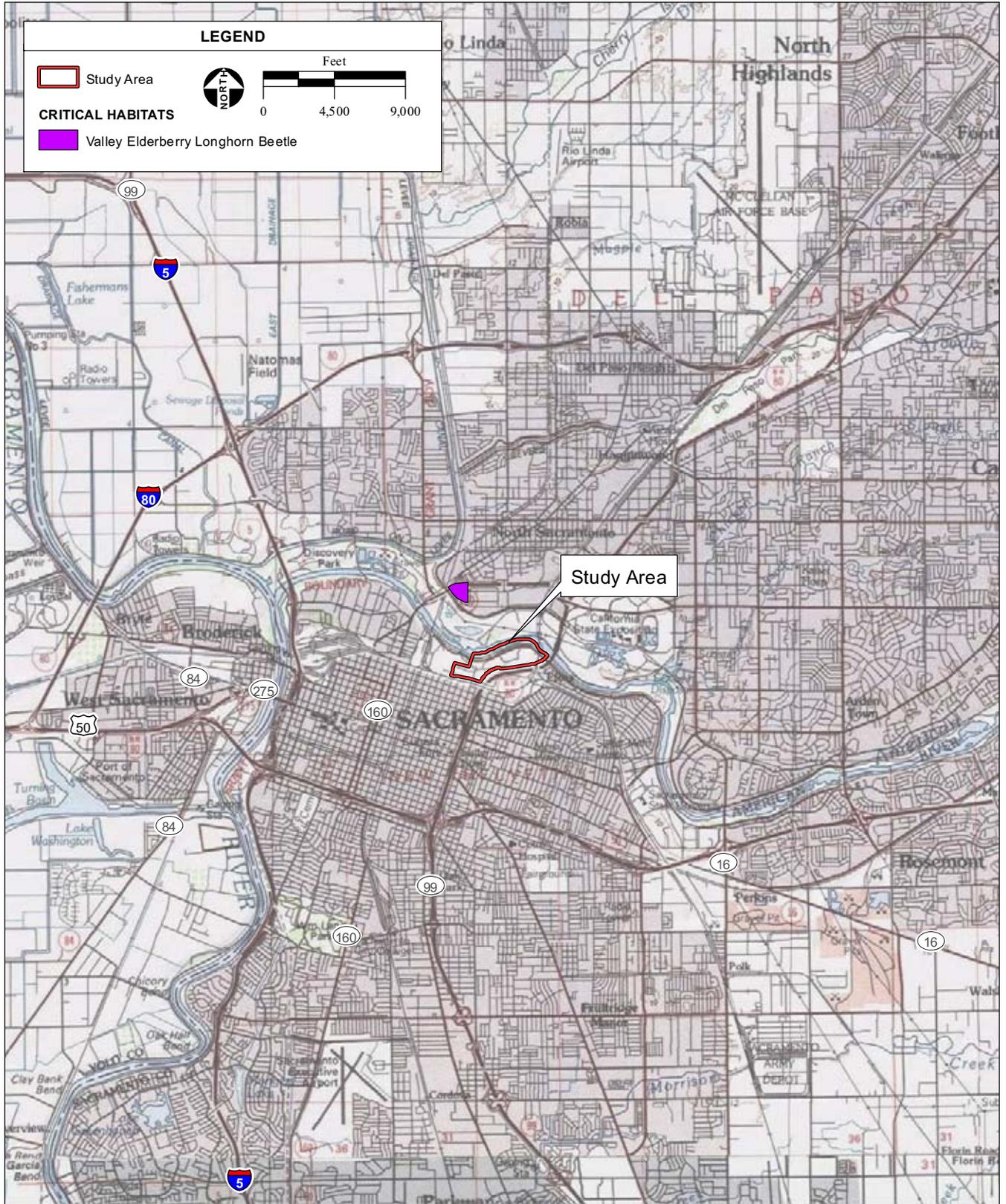
- | | | | |
|---|--|--|--|
|  5-Mile Radius | 5 - chinook salmon (Central Valley spring run ESU) | 12 - Great Valley Cottonwood Riparian Forest | 19 - tricolored blackbird |
|  Study Area | 6 - chinook salmon (Sacramento River winter run ESU) | 13 - hoary bat | 20 - valley elderberry longhorn beetle |
|  CNDDB Occurrences | 7 - Cooper's hawk | 14 - Northern Hardpan Vernal Pool | 21 - vernal pool fairy shrimp |
| 1 - American badger | 8 - Elderberry Savanna | 15 - purple martin | 22 - vernal pool tadpole shrimp |
| 2 - bank swallow | 9 - giant garter snake | 16 - Sacramento splittail | 23 - white tailed kite |
| 3 - burrowing owl | 10 - great blue heron | 17 - Sanford's arrowhead | 24 - woolly rose mallow |
| 4 - California linderella | 11 - great egret | 18 - Swainson's hawk | |



SOURCE: California Natural Diversity Database, 4/2011; "Sacramento East, CA" USGS 7.5 Minute Topographic Quadrangle, T9N, R5E, Unsectioned Area of New Helvetia, Mt. Diabole Baseline & Meridian; AES, 2011

City of Sacramento 28th Street Solar Photovoltaic Farm BRA / 211526 ■

Figure 8
CNDDDB 5-Mile Radius



SOURCE: USFWS Critical Habitat Survey of Sacramento County, Federally listed 1980; "Sacramento East, CA" USGS 7.5 Minute Topographic Quadrangle, T9N, R5E, Unsectioned Area of New Helvetia, Mt. Diablo Baseline & Meridian; AES, 2011

City of Sacramento 28th Street Solar Photovoltaic Farm BRA / 211526 ■

Figure 9
Critical Habitats

Special Status Plants

Dwarf Downingia (Downingia pusilla)

Federal Status – None

State Status – None

Other – CNPS 2

Dwarf downingia is an annual herb found in valley and foothill grassland and vernal pools from 0 to 1,476 feet. Blooming period is from March through May. Dwarf downingia is known from Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS, 2011).

There are no CNDDDB occurrences for this species within 5 miles of the study area. The nonnative grassland within the study area provides potential habitat for dwarf downingia. The May 27, 2011 biological survey was conducted within the evident and identifiable period for dwarf downingia. Dwarf downingia was not observed in the study area. This species does not occur in the study area.

Northern California Black Walnut (Juglans hindsii)

Federal Status – None

State Status – None

Other – CNPS 1B

Northern California black walnut is a deciduous tree found in riparian forest and woodland from 0 to 1,444 feet. Blooming period is April through May. Northern California black walnut is known from Contra Costa, Lake, Napa, Sacramento, Solano, and Yolo counties (CNPS, 2011).

There are no CNDDDB occurrences for this species within 5 miles of the study area. Isolated Northern California black walnut trees were observed within the cottonwood forest of the study area. The general locations of the Northern California black walnut trees have been recorded in the CNDDDB database (CDFG, 2003). Northern California black walnut occurs in the study area.

Ahart's Dwarf Rush (Juncus leiospermus var. ahartii)

Federal Status – None

State – None

Other – CNPS 1B

Ahart's dwarf rush is an annual herb found in valley and foothill grasslands on mesic substrates from 98 to 981 feet. Blooming period is from March through May. This species is known from Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS, 2011).

There are no CNDDDB occurrences for this species within 5 miles of the study area. The nonnative grassland within the study area provides potential habitat for Ahart's dwarf rush. The May 27, 2011 biological survey was conducted within the evident and identifiable period for Ahart's dwarf rush. Ahart's dwarf rush was not observed in the study area. This species does not occur in the study area.

Heckard's Pepper-Grass (Lepidium latipes var. heckardii)

Federal Status – None

State Status – None

Other – CNPS List 1B

Heckard's pepper-grass is an annual herb found in alkaline flats of valley and foothill grassland from 6.6 to 656 feet. Blooming period is from March to May. This species is known from Glenn, Solano, and Yolo counties (CNPS, 2011).

There are no CNDDDB records for this species within 5 miles of the study area. The nonnative grassland within the study area provides potential habitat for Heckard's pepper-grass. The May 27, 2011 biological survey was conducted within the evident and identifiable period for Heckard's pepper-grass. Heckard's pepper-grass was not observed within the study area. This species does not occur within the study area.

Special Status Wildlife

Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus; VELB)

Federal Status – Threatened

State Status – None

VELB is completely dependent on its host plant, the elderberry (*Sambucus* sp.) shrub during its entire life cycle throughout California's Central Valley (USFWS, 2008). VELB larvae live within the soft pith of the elderberry where they feed for one to 2 years. Adults emerge from pupation from the wood of elderberry shrubs during the spring as the plant begins to flower. The adults feed on the elderberry foliage up until they mate. Females lay their eggs in the crevices of elderberry bark. Upon hatching, the larvae tunnel into shrub stems and feed there. VELB typically utilize stems that are greater than one inch dgl (USFWS, 2008).

There are 11 CNDDDB records for this species within 5 miles of the study area. The nearest CNDDDB record (occurrence Number: 9) is from 1984 and abuts the northwestern boundary of the study area. The record states that adult VELB were observed on elderberry shrubs in riparian vegetation along the American River. Two elderberry shrubs with stems less than one-inch dgl were observed growing in containers surrounding pipe valves within the western portion of the nonnative grassland (**Figure 6a: Photograph 1**). The USFWS does not consider elderberry shrubs with stems less than one-inch dgl as VELB habitat. Elderberry shrubs comprised of stems with at least one inch dgl were observed in the elderberry savanna within the southeastern portion of the study area (**Figure 6a; Photograph 3**) and in a few isolated locations in the nonnative grassland within the southern portion of the study area (**Figure 6b; Photograph 8**). The host plant for this species occurs within the study area.

Burrowing Owl (Athene cunicularia)

Federal Status – None

State Status – Species of Concern

Burrowing owls occur in suitable habitat throughout California, except in northwestern coastal forests and on high mountains. Suitable habitat consists of open grasslands, especially prairie, plains, savanna, and in open areas including vacant lots and spoils piles near human habitat. Nesting and roosting occurs in burrows dug by mammals (such as California ground squirrels [*Spermophilus beecheyi*]), but may also occur in pipes, culverts, and nest boxes. Occupied nests can be identified by the lining of feathers, pellets, debris, and grass. Burrowing owls search for prey on the ground or on low perches such as fence posts or dirt mounds. Burrowing owls are diurnal, crepuscular, and nocturnal, depending on the time of year. Burrowing owls nest from March to August (CDFG, 2005).

There are 12 CNDDDB records for this species within 5 miles of the study area. Five of the 12 CNDDDB records are from the last 5 years. Three of the 5 records documented in the last 5 years are presumed extant; the other two have been extirpated. The nearest record is approximately one mile southeast of the study area (CNDDDB occurrence: 488). The record states that the burrowing owl occurrence is presumed extant, though the occurrence was last observed in 1974 (CDFG, 2003).

The majority of the nonnative grassland is maintained on an annual basis through soil compaction and vegetation mowing which reduces the likelihood of the presence of burrowing animals. The study area provides potential habitat for burrowing owls where annual disturbance from routine maintenance is limited, such as along the margins of the maintained nonnative grassland in the vicinity of the cottonwood forest and the elderberry savanna. No ground squirrel burrows, burrowing owls, or their sign were observed during the May 27, 2011 biological survey of the study area. Burrowing owls have the potential to occur within the study area.

Swainson's Hawk (Buteo swainsoni)

Federal Status – None

State Status – Threatened

Swainson's hawks are nesting raptors that arrive to their breeding grounds in the Central Valley in early March. Swainson's hawk nests are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley (County of Sacramento, 2007). A breeding pair constructs nests and lays eggs from late-April to late-May. The young typically hatch in mid-May, and nestlings generally fledge in mid-August (Cornell Lab of Ornithology, 2011). The young depend on the adults for approximately 4 weeks after fledging until they permanently leave the breeding territory. Swainson's hawks nest from February 15 through September 15. Suitable foraging habitat nearby nesting sites is critical for fledgling success (CDFG, 1994). Swainson's hawk are known to forage distances exceeding 18 miles from the nests (Estep, 1989).

The CDFG (1994) prepared the *State Fish and Game Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (Swainson's Hawk Staff Report). The report recommends new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The CDFG considers whether a project will adversely affect suitable foraging habitat within a 10-mile radius of a Swainson's hawk nest that has been active within the last 5 years. Suitable habitat includes areas that are considered small mammal and insect foraging

habitat, such as California ground squirrels, California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), crickets (*Gryllidae* sp.), and grasshoppers (*Conocephalinae* sp.). Suitable Swainson's hawk foraging habitat includes alfalfa, fallow fields, beet, tomato, and other low-growing row or field crops, dry-land and irrigated pasture, rice land (when not flooded), and cereal grain crops (including corn after harvest). Increased captures occurs in fields that are being harvested, disced, mowed, or irrigated.

There are 85 CNDDDB records for Swainson's hawk within 10 miles of the study area. There are 25 CNDDDB records for Swainson's hawk within 5 miles of the study area. The nearest record with an active nest within the last 5 years is from 2008 (CNDDDB occurrence: 1715) and is mapped approximately 2.5 miles southwest of the study area along the Sacramento River. The record states that a Swainson's hawk chick was observed in a nest along the west side of the Sacramento River.

The study area provides marginal nesting habitat within the cottonwood forest for Swainson's hawk, however, given that the cottonwood forest is comprised of a dense, even-age stand of trees and that the trees are less than 40 feet in height. The Swainson's hawk has a greater potential to nest within the riparian vegetation along the American River outside the northern boundary of the study area. The established riparian habitat along the American River to the north of study area provides optimal nesting habitat for this species within the cottonwood, California sycamore (*Platanus racemosa*), and willow (*Salix* sp.) trees exceeding heights of 50 feet. Several raptors nests were observed during the May 27, 2011 biological survey in the canopies of the cottonwood, California sycamore, and willow trees along the American River to the north of the study area. There was no visible bird activity in the vicinity of the nests at the time of the survey, so it is unclear what species of raptor utilize these nest sites. Swainson's hawk has a low potential to nest within the study area boundaries.

Available foraging habitat in the vicinity of the study area includes land designated as recreational open space to the north of the American River and on land to the south of Business Route 80. The managed nonnative grassland within the study area provides only marginal foraging habitat for Swainson's hawk, which prefers to forage in agricultural lands. No rodents or rodent burrows, which would provide evidence of sources of prey, were observed within the grassland during the May 27, 2011 biological survey, most likely due to annual soil compaction of the study area. Several black-tailed jack rabbits (*Lepus californicus*), less preferable sources of prey, were observed within the study area. A Swainson's hawk pair was observed foraging within the nonnative grassland within the study area and on land to the north of the study area, north of the American River during the May 27, 2011 biological survey. Because the landfill mound lacks preferable prey base due to the absence of small rodents and rodent burrows as a result of annual soil compaction within the managed nonnative grassland, Swainson's hawk has a low potential to forage within the study area.

White-Tailed Kite (Elanus leucurus)

Federal Status – None

State Status – Fully Protected

White-tailed kites are year-round residents in coastal and valley lowlands. White-tailed kites forage in open grasslands, meadows, agricultural fields, and emergent wetlands. Nesting occurs in dense stands

of oaks, willow, or other deciduous trees from February through October (CDFG, 2003). There are 5 CNDDDB records for white-tailed kite within 5 miles of the study area. The nearest CNDDDB record is from 2009 (occurrence number: 142) and is approximately 0.28 miles north of the study area. The record states that a nesting pair was observed bringing food to a nest in a deciduous tree (CDFG, 2003).

The cottonwood forest within the study area provides nesting habitat for this species. The nonnative grassland within the study area provides foraging habitat for this species. A white-tailed kite was observed foraging within the nonnative grassland during the May 27, 2011 biological survey of the study area. White-tailed kite have the potential to forage and nest within the study area.

Migratory Birds and Bird of Prey

Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). The MBTA protects migratory birds and other birds of prey, such as the great egret (*Ardea alba*) and the American kestrel (*Falco sparverius*). Nesting season occurs from March 1 to September 15. A killdeer (*Charadrius vociferous*) nest and the nesting pair were observed within the nonnative grassland during the May 27, 2011 biological survey of the study area. Migratory birds and other birds of prey have the potential to nest in trees within the cottonwood forest and elderberry savanna, within the ornamental landscaping associated with the ruderal/developed areas, and on the ground within the nonnative grassland within the study area.

IMPACTS AND MITIGATION MEASURES

The significance of potential impacts to biological resources was evaluated based on legal protection, local, state, and federal agency policies, and documented resource scarcity and sensitivity. The project would result in a potentially significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Habitat Types

Table 3 summarizes the acreages of habitat types impacted by the proposed project. Impacts to aquatic habitats are discussed further within the *Potential Waters of the U.S.* section below. The USFWS and the CDFG consider elderberry savanna as a sensitive habitat type. The proposed project was designed to avoid impacts to this habitat type. The proposed project was designed to avoid impacts to the cottonwood forest. No other habitat types are considered sensitive as the ruderal/ developed areas do not provide quality habitat for native plants and wildlife, which the CDFG considers sensitive. Therefore, no mitigation is recommended. A map showing the impacted habitat areas is provided in **Figure 10**.

TABLE 3
ACREAGES OF HABITAT TYPES IMPACTED BY THE PROPOSED PROJECT

Habitat Type	Acreage ¹
<i>Terrestrial</i>	
Managed Nonnative Grassland	97.06
Ruderal/Developed	6.19
<i>Aquatic</i>	
Concrete-Lined Detention Basin	0.72
Total	103.97

¹ GIS calculations may not reflect exact acreage of study area due to rounding.

AES, 2011

Potential Waters of the U.S.

The concrete-lined detention basin is not a potentially jurisdictional feature because it is a manmade feature used to hold water received from runoff from the surrounding managed, nonnative grassland and ruderal/developed areas following precipitation events, lacks vegetation and soils, and is an isolated feature that lacks connectivity to a waters of the U.S. regulated under the CWA. The ephemeral drainage ditch located along the southwestern edge of the project site may be considered a potential wetland or other waters of the U.S. and may be subject to USACE jurisdiction under the CWA. The proposed project was designed to avoid impacts to the ephemeral drainage ditch. Therefore, no mitigation is recommended. Should the project be re-designed to impact or alter this drainage, a Section 404 CWA permit application, including formal delineation of waters of the U.S., would be required to be submitted to the USACE.



Figure 10
Project Impacts

Special Status Plants

Dwarf Downingia (Downingia pusilla), Ahart's Dwarf Rush (Juncus leiospermus var. ahartii), and Heckard's Pepper-Grass (Lepidium latipes var. heckardii)

The proposed project would have no impacts on dwarf downingia, Ahart's dwarf rush, and Heckard's pepper-grass because these species do not occur within the project site.

Northern California Black Walnut (Juglans hindsii)

Northern California black walnut occurs within the cottonwood forest. The proposed project was designed to avoid impacts to the cottonwood forest. Therefore, this species would not be impacted and no mitigation is required.

Special Status Wildlife

Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus; VELB)

There are several elderberry shrubs, the host plant for VELB, with stems at least one inch dgl located within 100 feet of the proposed project footprint. These shrubs are located along the southern border of the managed nonnative grassland (**Figure 7**). Removal of elderberry shrubs could result in harm to VELB which would be considered a violation of the FESA unless an incidental take authorization is obtained from the USFWS. Final design of the proposed project shall avoid removal of elderberry shrubs within stems at least one inch dgl. The following mitigation measures are recommended to avoid or reduce impacts to VELB to less than significant:

- A qualified biologist should conduct an elderberry stem survey of all elderberry shrubs within 100 feet of the proposed project footprint, in accordance with the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (Conservation Guidelines; USFWS, 1999b). An Effects Analysis report should be submitted to the USFWS to document the avoidance and minimization measures identified in the Conservation Guidelines. Complete avoidance measures include:
 - The proposed project shall be designed to avoid the installation of equipment within 20 feet of any elderberry shrub with stems measuring at least one inch dgl.
 - Temporary construction fencing should be placed around the driplines of any elderberry shrubs with stems measuring at least one inch dgl prior to commencement of construction activities to ensure that no elderberry shrub is inadvertently removed. A biologist should be present during the installation of the construction fencing.
 - In all locations where the proposed project would occur within 100 feet of elderberry shrubs with stems measuring at least one inch dgl, high visibility construction fencing should be placed at the edge of the construction footprint to denote the limit of disturbance and beginning of the avoidance areas. The construction barriers and fencing should not be removed until construction activities within 100 feet of VELB habitat have been completed.
 - Signs should be erected every 50 feet along the edge of avoidance areas with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the FESA, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs

should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

- A qualified biologist should conduct an environmental awareness training to instruct all construction personnel crews about the status of the VELB and the need to protect its elderberry host plant. The training should include identification of special status species, required practices before the start of construction, general measures that are being implemented to conserve these species as they relate to the proposed pipelines, penalties for noncompliance, and boundaries of the survey area and of the permitted disturbance zones. Supporting materials containing training information should be prepared and distributed. Upon completion of training, all construction personnel should sign a form stating that they have attended the training and understand all the conservation measures. Training should be conducted in languages other than English, as appropriate. Proof of this instruction should be kept on file with the contractor. The City should provide the USFWS with a copy of the training materials and copies of the signed forms by project staff indicating that training has been completed within 30 days of the completion of the first training session. The contractor should train and provide training materials to any new crew members that were not present at the environmental awareness training conducted by the biologist. Copies of signed forms should be submitted monthly as additional training occurs for new employees.
 - Staging areas should be located at least 100 feet from elderberry shrubs with stems at least one inch dgl. Temporary stockpiling of excavated or imported material should occur only in approved construction staging areas.
 - Standard precautions should be employed by the construction contractor to prevent the accidental release of fuel, oil, lubricant, or other hazardous materials.
 - A litter control program should be instituted. The contractor should provide closed garbage containers for the disposal of all food-related trash items (e.g., wrappers, cans, bottles, food scraps). All garbage should be removed daily.
 - Roadways and areas disturbed by project activities within 100 feet of elderberry shrubs should be watered at least twice a day to minimize dust emissions.
- The following mitigation measures should be implemented to minimize adverse effects to VELB habitat within 20 feet of construction activities:
- A biologist should monitor all construction activities occurring within 20 feet of the elderberry shrubs to ensure that none are harmed.
 - The contractor should ensure that dust control measures (e.g., watering) are implemented in the vicinity of the elderberry shrubs. To further minimize adverse effects associated with dust accumulation, the elderberry shrubs will be covered by a protective cloth (i.e., burlap or weed matting) during all ground-disturbing activities occurring within 20 feet of the elderberry shrubs. The cloth should be removed daily and immediately after ground-disturbing activities are completed.
 - Excluding ongoing maintenance activities within the project site, no insecticides, herbicides, fertilizers, or other chemicals that might harm VELB or the elderberry shrub

should be used in association with the proposed project within 20 feet of the elderberry shrubs.

- The following measures should be implemented following the completion of construction activities:
 - Any disturbed areas should be revegetated and restored to pre-project conditions immediately.
 - The City should provide a written report to the USFWS documenting the results of mitigation and describing how the construction areas are to be restored, protected, and maintained after construction is completed.

Swainson's Hawk (*Buteo swainsoni*) Nesting Habitat

Swainson's hawk has a low potential to nest within the cottonwood forest given the dense stand of trees and that the tree heights are less than 40 feet tall. The species has a greater potential to nest within the riparian vegetation along the American River outside the northern boundary of the project site.

Construction activities within 0.25 miles of an active nest could result in disturbance of potential Swainson's hawk nest sites through temporary increases in ambient noise levels and increased human activity. The nearest active nest listed within the last five years on the CNDDDB database was located approximately 2.5 miles from the project site; however, it is possible that active nests are located in greater proximity to the site that have either not been reported or updated on the CNDDDB database managed by the CDFG. Potential disruption of nesting Swainson's hawk during construction of the proposed project could result in the abandonment of active nests. This is considered a potentially significant impact. The recommended mitigation measures identified below would ensure that impacts to nesting Swainson's hawks are reduced to less than significant levels through identification and avoidance of active nests. These measures are based on the CDFG's (1994) Swainson's Hawk Staff Report and have been modified as they relate to the proposed project. The following mitigation would be required to avoid or reduce impacts to a less than significant level:

- Prior to any construction activities that occur within the nesting season (March 1 and September 15), a qualified biologist should conduct surveys for active Swainson's hawk nests in the project site and within 0.25 miles of the project site where legally permitted. The biologist should use binoculars to visually determine whether Swainson's hawk nests occur beyond the 0.25-mile survey area if access is denied on adjacent properties. If no active Swainson's hawk nests are identified within 0.25 miles of construction activities, a letter report summarizing the survey results shall be submitted to the City within 30 days following the survey, and no further mitigation for nesting habitat is recommended.
- If active Swainson's hawk nests are found within 0.25 miles of construction activities, the biologist should contact the City within one day following the preconstruction survey to report the findings. No intensive disturbances (e.g., heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within .25 miles (buffer zone as defined in the CDFG Staff Report) of an active nest between February 15 and September 15 or until the nestlings have fledged. Should a reduced buffer be necessary, then the CDFG should

be consulted to develop take avoidance measures, and implement a monitoring and reporting program prior to any construction activities occurring within 0.25 miles of the nest.

Swainson's Hawk (Buteo swainsoni) Foraging Habitat

The managed nonnative grassland within the project site is considered low quality Swainson's Hawk foraging habitat given the lack of preferable prey base of small rodents and rodent burrows as a result of the City's ongoing landfill management activities, including mowing and annual soil compaction. Approximately 97.06 acres of low quality foraging habitat within the managed nonnative grassland would be temporarily removed as a result of the proposed project. Once the lease for the photovoltaic solar park expires in 20 years, the project site would be restored to its pre-existing condition and landfill areas would continue to be maintained in accordance with applicable permit requirements. The temporary removal of low quality foraging habitat within the project site would not result in harm to the species as higher quality foraging habitat is present in the immediate vicinity of the study area including land designated as recreational open space to the north of the American River and land to the south of Business Route 80.

The CDFG considers 5 or more vacant acres within 5 miles of a nest that has been active within the last 5 years to be significant foraging habitat for Swainson's hawk regardless of quality, the conversion of which to urban uses is considered a significant impact. The proposed project occurs within 2.5 miles of Swainson's hawk nests that have been documented active on the CNDDDB database within the last 5 years. The mitigation measure identified below would ensure that impacts to Swainson's hawk foraging habitat would be reduced to less than significant levels through the preservation and management in perpetuity of suitable foraging habitat, contiguous with other areas of suitable foraging habitat, for Swainson's hawk. Because the foraging habitat within the project site is of low quality due to the post closure maintenance activities required for the former 28th Street Landfill, the preservation of foraging habitat at the ratio identified below would be sufficient to ensure that the temporary loss of habitat on the project site would not result in substantial reduction in the numbers of species, significantly limit its range, or cause populations to be reduced below self sustaining levels. The following mitigation measure is required to reduce the loss of foraging habitat to less than significant:

- The City should purchase credits to off-set the conversion of nonnative grassland at a 0.25-to-one ratio (24.26 acres) at a CDFG-approved mitigation bank.

Burrowing Owl (Athene cunicularia)

Burrowing owls or their nests were not observed during May 27, 2011 survey of the project site. Although unlikely, burrowing owls have the potential to nest or winter within nonnative grassland along the margins of the project site. Potential disruption of burrowing owls from construction activities could result in the abandonment or loss of active nests through burrow destruction. This is considered a potentially significant impact. The following mitigation is recommended to avoid or reduce impacts to a less than significant level:

- A qualified biologist should conduct a preconstruction survey within 30 days prior to construction activities occurring within potential nesting or wintering habitat for burrowing owl, including the nonnative grassland areas that occur within the project site. In accordance with the CDFG

burrowing owl survey protocol, the survey area should extend 500-feet from construction areas (CDFG, 1995) where legally permitted. The biologist should use binoculars to visually determine whether burrowing owls occur beyond the construction areas if access is denied on adjacent properties. If no burrowing owls or their sign are detected in the vicinity of the project site during the preconstruction survey, a letter report documenting survey methods and findings should be submitted to the City and the CDFG within 30 days following the survey, and no further mitigation is required.

- If unoccupied burrows are detected during the non-breeding season (September through January 31), the City should be contacted within one day following the preconstruction survey to report the findings. The City should collapse the unoccupied burrows, or otherwise obstruct their entrances to prevent owls from entering and nesting in the burrows.
- If occupied burrowing owl burrows are detected, impacts on burrows should be avoided by providing a buffer of 160 feet during the non-breeding season (September 1 through January 31) or 250 feet during the breeding season (February 1 through August 31). The size of the buffer area may be adjusted if a qualified biologist or the CDFG determine the burrowing owl would not likely be affected by the proposed project. Project activities should not commence within the buffer area until a qualified biologist confirms that the burrow is no longer occupied. If the burrow is occupied by a nesting pair, a minimum of 7.5 acres of foraging habitat contiguous to the burrow should be maintained until the breeding season is finished.
- If impacts to occupied burrows are unavoidable, onsite passive relocation techniques approved by the CDFG should be used to encourage burrowing owls to move to alternative burrows outside of the project site. No occupied burrows should be disturbed during the nesting season unless a qualified biologist verifies through non-invasive methods that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Mitigation for foraging habitat for relocated pairs shall follow the guidelines provided in *the California Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993). The mitigation for foraging habitat for relocated pairs range from 7.5 to 19.5 acres per pair.

Migratory Birds and Other Birds of Prey

The proposed project has the potential to impact nest sites for federally and state protected migratory birds and other birds of prey within the project site. Nesting birds and other raptors, including white-tailed kite, may utilize trees in the vicinity of the project site as nesting habitat. The current design of the proposed project would not result in the removal of any trees within the study area. However, potential disruption of nesting migratory birds and other birds of prey during construction could result in nest abandonment or mortality. The mitigation measures below would ensure that impacts to nesting birds are reduced to less than significant levels through identification and avoidance of active nests. The following mitigation measures are required to avoid impacts to nest sites for migratory birds and other birds of prey:

- A preconstruction survey should be conducted by a qualified biologist for nesting birds of prey and migratory birds within 2 weeks prior to commencement of construction activities that occur between March 1 and September 15. The qualified biologist should document and submit the results of the preconstruction survey in a letter to the CDFG and the City within 30 days following the survey. The letter should include: a description of the methodology including dates of field visits, the names of survey personnel, and a list of references cited and persons contacted, and a

map showing the location(s) of any bird nests observed on the project site. If no active nests are identified during the preconstruction survey, then no further mitigation is recommended so long as construction activities commence within 14 days of the preconstruction survey. An additional preconstruction survey would be recommended within 14 days of the anticipated construction commencement should construction be delayed beyond the 14 days of the previous preconstruction survey.

- If any active nests are identified during the preconstruction survey within the project site, a buffer zone should be established around the nests, in coordination with CDFG. A qualified biologist should monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. The biologist should delimit the buffer zone with construction tape or pin flags within 50 feet of the active migratory nest or within 100 feet of an active raptor nest (excluding an active Swainson's hawk nest or an occupied burrowing owl burrow) and maintain the buffer zone until the end of the breeding season or until the young have successfully fledged. If establishing the 50- or 100-foot buffer zone is impractical, then a qualified biologist would monitor any construction activity occurring within the buffer zone on a daily basis. The biologist should have the authority to halt construction activities within the buffer zone should the disturbance have the potential to result in nest abandonment or forced fledging.

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ATTACHMENTS

ATTACHMENT 1

USFWS, CNPS, AND CNDDDB LISTS

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

**Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the
SACRAMENTO EAST (512C)
U.S.G.S. 7 1/2 Minute Quad**

Database last updated: April 29, 2010

Report Date: April 25, 2011

Listed Species

Invertebrates

Branchinecta lynchi

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

Critical habitat, valley elderberry longhorn beetle (X)

valley elderberry longhorn beetle (T)

Lepidurus packardi

vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris

green sturgeon (T) (NMFS)

Hypomesus transpacificus

Critical habitat, delta smelt (X)

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chinook (X) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

CNPS Inventory of Rare and Endangered Plants

Status: Plant Press Manager window with 11 items - Mon, Apr. 25, 2011 13:58 c

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: ▼

DELETE unchecked items check all

open	save	scientific	common	family	CNPS
	<input checked="" type="checkbox"/>	<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	List 2.2
	<input checked="" type="checkbox"/>	<u>Gratiola heterosepala</u>	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
	<input checked="" type="checkbox"/>	<u>Hibiscus lasiocarpus</u> var. <u>occidentalis</u>	woolly rose-mallow	Malvaceae	List 1B.2
	<input checked="" type="checkbox"/>	<u>Juglans hindsii</u>	Northern California black walnut	Juglandaceae	List 1B.1
	<input checked="" type="checkbox"/>	<u>Juncus leiospermus</u> var. <u>ahartii</u>	Ahart's dwarf rush	Juncaceae	List 1B.2
	<input checked="" type="checkbox"/>	<u>Legenere limosa</u>	legenere	Campanulaceae	List 1B.1
	<input checked="" type="checkbox"/>	<u>Lepidium latipes</u> var. <u>heckardii</u>	Heckard's pepper-grass	Brassicaceae	List 1B.2
	<input checked="" type="checkbox"/>	<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	List 1B.1
	<input checked="" type="checkbox"/>	<u>Orcuttia tenuis</u>	slender Orcutt grass	Poaceae	List 1B.1
	<input checked="" type="checkbox"/>	<u>Orcuttia viscida</u>	Sacramento Orcutt grass	Poaceae	List 1B.1
	<input checked="" type="checkbox"/>	<u>Sagittaria sanfordii</u>	Sanford's arrowhead	Alismataceae	List 1B.2

DELETE unchecked items check all

California Department of Fish and Game
 Natural Diversity Database
 Selected Elements by Scientific Name - Landscape

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1 <i>Accipiter cooperii</i>	Cooper's hawk	ABNKC12040			G5	S3		
2 <i>Agelaius tricolor</i>	tricolored blackbird	ABPXB0020			G2G3	S2		SC
3 <i>Andrena subopasta</i>	A vernal pool andrenid bee	IIHYM35050			G1G3	S1S3		
4 <i>Aquila chrysaetos</i>	golden eagle	ABNKC22010			G5	S3		
5 <i>Archopites interruptus</i>	Sacramento perch	AFCQB07010			G3	S1		SC
6 <i>Ardea alba</i>	great egret	ABNGA04040			G5	S4		
7 <i>Ardea herodias</i>	great blue heron	ABNGA04010			G5	S4		
8 <i>Athene cunicularia</i>	burrowing owl	ABNSB10010			G4	S2		SC
9 <i>Branchinecta lynchi</i>	vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3		
10 <i>Branchinecta mesoavillensis</i>	midvalley fairy shrimp	ICBRA03150			G2	S2		
11 <i>Buteo regalis</i>	ferruginous hawk	ABNKC19120			G4	S3S4		
12 <i>Buteo swainsoni</i>	Swainson's hawk	ABNKC19070		Threatened	G5	S2		
13 <i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	ABNKR02022	Candidate	Endangered	G5T3Q	S1		
14 <i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	2.2	
15 <i>Downingia pusilla</i>	dwarf downingia	PDCAM060C0			G2	S2		
16 <i>Dumontia oregonensis</i>	hairy water flea	ICBRA23010			G1G3	S1		
17 <i>Egretta thula</i>	snowy egret	ABNGA06030			G5	S4		
18 <i>Elianus leucurus</i>	white-tailed kite	ABNKC06010			G5	S3		
19 <i>Elderberry Savanna</i>	Elderberry Savanna	CTT63440CA			G2	S2.1		
20 <i>Emys marmorata</i>	western pond turtle	ARAA02030			G3G4	S3		SC
21 <i>Falco columbarius</i>	merlin	ABNKD06030			G5	S3		
22 <i>Fritillaria agrestis</i>	stinkbells	PMLILOV010			G3	S3.2	4.2	
23 <i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSR0R080		Endangered	G2	S2	1B.2	
24 <i>Great Valley Cottonwood Riparian Forest</i>	Great Valley Cottonwood Riparian Forest	CTT61410CA			G2	S2.1		
25 <i>Great Valley Valley Oak Riparian Forest</i>	Great Valley Valley Oak Riparian Forest	CTT61430CA			G1	S1.1		
26 <i>Hibiscus lasiocarpus var. occidentalis</i>	woolly rose-mallow	PDMAL0H0R3			G4	S2.2	2.2	
27 <i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2		
28 <i>Juglans hindsii</i>	Northern California black walnut	PDJUG02040			G1	S1.1	1B.1	
29 <i>Juncus leiospermus var. ahartii</i>	Ahart's dwarf rush	PMJUN011L1			G2T1	S1.2	1B.2	
30 <i>Lasiurus cinereus</i>	hoary bat	AMACC05030			G5	S4?		
31 <i>Legenere limosa</i>	legenere	PDCAM0C010			G2	S2.2	1B.1	
32 <i>Lepidium latipes var. heckardii</i>	Heckard's pepper-grass	PDBRA1M0K1			G4T1	S1.2	1B.2	
33 <i>Lepidurus packardii</i>	vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3		
34 <i>Lilaeopsis masonii</i>	Mason's lilaeopsis	PDAP19030		Rare	G2	S2	1B.1	

California Department of Fish and Game
 Natural Diversity Database
 Selected Elements by Scientific Name - Landscape

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
35 <i>Linderiella occidentalis</i>	California linderiella	ICBRA06010			G3	S2S3		
36 <i>Northern Claypan Vernal Pool</i>	Northern Claypan Vernal Pool	CTT44120CA			G1	S1.1		
37 <i>Northern Hardpan Vernal Pool</i>	Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1		
38 <i>Northern Volcanic Mud Flow Vernal Pool</i>	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1		
39 <i>Nycticorax nycticorax</i>	black-crowned night heron	ABNGA11010			G5	S3		
40 <i>Oncorhynchus tshawytscha</i>	chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	G5	S1		
41 <i>Oncorhynchus tshawytscha</i>	chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5	S1		
42 <i>Orcuttia tenuis</i>	slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1	
43 <i>Orcuttia viscida</i>	Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1.1	1B.1	
44 <i>Phalacrocorax auritus</i>	double-crested cormorant	ABNFD01020			G5	S3		
45 <i>Pogonichthys macrolepidotus</i>	Sacramento splittail	AFCJB34020			G2	S2		SC
46 <i>Progne subis</i>	purple martin	ABPAU01010			G5	S3		SC
47 <i>Riparia riparia</i>	bank swallow	ABPAU08010	Threatened	Threatened	G5	S2S3		
48 <i>Sagittaria sanfordii</i>	Sanford's arrowhead	PIMALJ040Q0			G3	S3	1B.2	
49 <i>Spea hammondi</i>	western spadefoot	AAABF02020			G3	S3		SC
50 <i>Taxidea taxus</i>	American badger	AMAJF04010			G5	S4		SC
51 <i>Thamnophis gigas</i>	giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3		
52 <i>Xanthocephalus xanthocephalus</i>	yellow-headed blackbird	ABPBXB3010			G5	S3S4		SC

ATTACHMENT 2

PLANTS AND WILDLIFE SPECIES OBSERVED

**PLANTS AND WILDLIFE OBSERVED WITHIN
THE STUDY AREA**

28th Street Landfill Solar Project

May 27, 2011

Plants Observed within the Study Area

Family	Scientific Name	Common Name	*
Aceraceae	<i>Acer negundo</i>	Box elder	I
Apocynaceae	<i>Nerium oleander</i>	Oleander	I
Apeaceae	<i>Conium maculatum</i>	Poison hemlock	I
	<i>Foeniculum vulgare</i>	Fennel	I
	<i>Torillia arvensis</i>	Field hedge parsley	I
Asteraceae	<i>Achyraea mollis</i>	Blow-wives	I
	<i>Carduus pycnocephalus</i>	Italian thistle	I
	<i>Centaurea solstitialis</i>	Yellow star-thistle	I
	<i>Chamomilla suaveolens</i>	Pineappleweed	I
	<i>Cirsium vulgare</i>	Bull thistle	I
	<i>Hypochaeris glabra</i>	Smooth cat's ear	N
	<i>Lactuca serriola</i>	Prickly lettuce	I
	<i>Leontodon taraxacoides</i>	hawkbit	N
	<i>Silybum marianum</i>	Milk thistle	I
	<i>Senecio vulgare</i>	Common groundsel	N
	<i>Sonchus oleraceus</i>	Common sowthistle	I
	<i>Xanthium strumarium</i>	Cocklebur	N
	Boraginaceae	<i>Amsinckia menziesii</i>	Fiddleneck
Brassicaceae	<i>Brassica nigra</i>	Field mustard	I
	<i>Hirschfeldia incana</i>	Field mustard	N
	<i>Lepidium latifolia</i>	Pepperweed	I
	<i>Raphanus sativus</i>	Wild radish	I
Caprifoliaceae	<i>Sambucus mexicana</i>	Elderberry	N
Convolvulaceae	<i>Convolvulus arvensis</i>	Field bindweed	I
Cupressaceae	<i>Sequoia sempervirens</i>	Coast redwood	N
Euphorbiaceae	<i>Eremocarpus setigerus</i>	Dove weed; Turkey mullein	N
Fabaceae	<i>Lotus purshianus var. purshianus</i>	Spanish clover	I
	<i>Lotus scoparius</i>	deerweed	I
	<i>Lotus sp.</i>		N
	<i>Medicago polymorpha</i>	California burclover	I
	<i>Melilotus indicus</i>	Yellow sweetclover	I
	<i>Robinia pseudoacacia</i>	Black locust	I
	<i>Trifolium campestre</i>	Hop clover	I
	<i>Trifolium glomeratum</i>	Clustered clover	N
	<i>Trifolium hirtum</i>	Clover	N
Fagaceae	<i>Vicia villosa ssp. villosa</i>	Hairy vetch	I
	<i>Quercus lobata</i>	Valley oak	N
	<i>Quercus wislizenii</i>	Interior live oak	N
Geraniaceae	<i>Erodium botrys</i>	Filaree	I
	<i>Erodium cicutarium</i>	Filaree	I
	<i>Geranium dissecta</i>	Cranesbill	N
Juglandaceae	<i>Juglans hindsii</i>	California black walnut	N
Lamiaceae	<i>Mentha pulegium</i>	Mint	I
Lauraceae	<i>Umbellularia californica</i>	Californiabay	N

**PLANTS AND WILDLIFE OBSERVED WITHIN
THE STUDY AREA**

28th Street Landfill Solar Project

May 27, 2011

Lythraceae	<i>Lythrum hyssopifolia</i>	Hyssop loostripe	I
Malvaceae	<i>Malva parviflora</i>	Cheeseweed	I
Myrtaceae	<i>Eucalyptus globulus</i>	Blue gum	N
Oleaceae	<i>Fraxinus latifolia</i>	Oregon ash	N
Onagraceae	<i>Epilobium ciliatum</i>	Fireweed	N
Plantaginaceae	<i>Plantago coronopus</i>	plantain	I
	<i>Plantago lanceolata</i>	English plantain	I
	<i>Veronica agrestis</i>	Field speedwell	I
Plantaginaceae	<i>Plantago coronopus</i>	Buckshorn plantain	I
	<i>Plantago lanceolata</i>	Plantain	I
Platanaceae	<i>Platanus racemosa</i>	Western sycamore	N
Poaceae	<i>Avena barbata</i>	Slender wild oat	I
	<i>Avena fatua</i>	Wild oat	I
	<i>Bromus diandrus</i>	Ripgut grass	I
	<i>Bromus hordeaceus</i>	Soft brome	I
	<i>Cynodon dactylon</i>	Bermuda grass	I
	<i>Cynosurus echinatus</i>	Hedgehog dogtail	I
	<i>Echinochloa crus-galli</i>	Barnyard grass	I
	<i>Gastridium ventricosum</i>	Nit grass	N
	<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	I
	<i>Hordeum murinum</i>	Foxtail	I
	<i>Lolium multiflorum</i>	Italian ryegrass	I
	<i>Polypogon monspeliensis</i>	Annual beard grass	I
	<i>Taeniatherum caput-medusae</i>	Medusa head	I
	<i>Vulpia myuros</i>	Zorro fescue	I
Polygonaceae	<i>Rumex acetosella</i>	Sheep sorrel	I
	<i>Rumex crispus</i>	Curly dock	I
Rosaceae	<i>Prunus dulcis</i>	Almond	I
	<i>Rubus discolor</i>	Himalayan blackberry	
Rubiaceae	<i>Galium aparine</i>	Bedstraw	I
Salicaceae	<i>Populus fremontii</i>	Cottonwood	I
Solanaceae	<i>Solanum nigrum</i>	Black nightshade	N
Vitaceae	<i>Vitis californica</i>	Wild grape	N

*N=Native; I=Invasive

**PLANTS AND WILDLIFE OBSERVED WITHIN
THE STUDY AREA**

28th Street Landfill Solar Project

May 27, 2011

Wildlife Observed within the Study Area

Scientific Name	Common Name
Birds	
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Aphelocoma californica</i>	Western scrub-jay
<i>Ardea alba</i>	Great egret
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Carpodacus mexicanus</i>	House finch
<i>Cathartes aura</i>	Turkey vulture
<i>Charadrius vociferus</i>	Killdeer
<i>Columba livia</i>	Rock pigeon
<i>Corvus brachyrhynchos</i>	American crow
<i>Elanus leucurus</i>	White-tailed kite
<i>Falco sparverius</i>	Kestrel
<i>Hirundo rustica</i>	Barn swallow
<i>Petrochelidon pyrrhonota</i>	Cliff swallow
<i>Pica nuttalli</i>	Yellow-billed magpie
<i>Sayornis nigricans</i>	Black phoebe
<i>Zenaida macroura</i>	Mourning dove
Mammals	
<i>Felis domestica</i>	Feral cat
<i>Lepus californicus</i>	Black-tailed jackrabbit
Reptiles	
<i>Sceloporus occidentalis</i>	Western fence lizard

ATTACHMENT 3

***REGIONALLY OCCURRING SPECIAL STATUS SPECIES AND THEIR
DESIGNATED CRITICAL HABITAT***

**ATTACHMENT 3
REGIONALLY OCCURRING FEDERAL, STATE, AND CNPS LISTED SPECIAL-STATUS SPECIES AND THEIR DESIGNATED CRITICAL HABITAT**

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
Plants					
<i>Downingia pusilla</i> dwarf downingia	--/--/2	Known from Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties in California and in South America (CNPS, 2011).	Annual herb found in Valley and foothill grassland occasionally on mesic soils, and in and vernal pools from 1 to 445 meters (CNPS, 2011).	March-May	Yes. See text.
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	--/CE/1B	Known from Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama counties in California and in Oregon (CNPS, 2011).	Annual herb found on clay soils in vernal pools and along the lake margins of marshes and swamps from 10 to 2,375 meters (CNPS, 2011).	April-August	No. The study area does not provide habitat for this species.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> Woolly rose-mallow	--/--/1B	Known from Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties (CNPS, 2011).	Emergent perennial rhizomatous herb found in marshes and swamps, which are occasionally freshwater, from 1 to 120 meters (CNPS, 2011).	June-September	No. The study area does not provide habitat for this species.
<i>Juglans hindsii</i> Northern California black walnut	--/--/1B	Known from Contra Costa, Lake, Napa, Sacramento, Solano, and Yolo counties (CNPS, 2011).	Deciduous tree found in riparian forest and riparian woodland from 0 to 440 meters (CNPS, 2011).	April-May	Yes. See text.
<i>Juncus leiostermus</i> var. <i>ahartii</i> Ahart's dwarf rush	--/--/1B	Known from Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS, 2011).	Annual herb found on mesic soils in valley and foothill grassland from 30 to 100 meters (CNPS, 2011).	March-May	Yes. See text.
<i>Legenere limosa</i> Legenere	--/--/1B	Known from Alameda, Lake, Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS, 2011).	Annual herb found in vernal pools from 1 to 880 meters (CNPS, 2011).	April-June	No. The study area does not contain habitat for this species.
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	--/--/1B	Known from Glenn, Merced, Sacramento, Solano, and Yolo counties (CNPS, 2011).	Annual herb found occasionally on alkaline flats in valley and foothill grassland from 2 to 200 meters (CNPS, 2011).	March-May	Yes. See text.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	--/CR/1B	Known from Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, and Solano counties (CNPS, 2011).	Rhizomatous herb found in marshes and swamps, that are occasionally brackish or freshwater, and riparian scrub from 0 to 10 meters (CNPS, 2011).	April-November	No. The study area does not provide habitat for this species.
<i>Orcuttia tenuis</i> Slender Orcutt grass	FT/CE/1B	Known from Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama counties (CNPS, 2011).	Annual herb found in vernal pools from 35 to 1,760 meters (CNPS, 2011).	May-September	No. The study area does not contain habitat for this species.
<i>Orcuttia viscida</i> Sacramento Orcutt grass	FE,CH/ CE/1B	Known from Sacramento County (CNPS, 2011).	Annual herb found in vernal pools from 30 to 100 meters (CNPS, 2011).	April-July	No. The study area does not contain habitat for this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Sagittaria sanfordii</i> Sanford's arrowhead	--/--/IB	Known from Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Orange, Placer, Sacramento, Shasta, San Joaquin, Tehama, and Ventura counties (CNPS, 2011).	Rhizomatous herb emergent found in assorted shallow freshwater marshes and swamps from 0 to 650 meters (CNPS, 2011).	May-October	No. The study area does not contain habitat for this species.
Animals					
Invertebrates					
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE, CH/--/--	Known in isolated populations from Butte, Colusa, Glenn, Merced, Solano, Stanislaus, Tehama, Ventura, Yolo, and Yuba counties (Eriksen and Belk, 1999).	Found in ephemeral wetland habitats and vernal pools on clay, volcanic, and alluvial soils within annual grassland and pine forests from 5 to 1,700 meters. Found in water temperatures as high as 23°C (Eriksen and Belk, 1999).	Wet season: November-April (adults) Dry season: May-October (eggs)	No. The study area is outside the known geographical range for this species.
<i>Branchinecta lynclii</i> Vernal pool fairy shrimp	FT, CH/--/--	Known from Alameda, Butte, Contra Costa, Colusa, El Dorado, Fresno, Glenn, Kings, Lake, Los Angeles, Madera, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Tehama, Tulare, Riverside, and Yuba counties in California and in southern Oregon (Eriksen and Belk, 1999).	Found in ephemeral wetland habitats and vernal pools within sandstone, alkaline soils, and alluvial fan terraces, within annual grassland and pine forests from 10 to 1,700 meters (Eriksen and Belk, 1999).	Wet season: December through May (adults) Dry season: June-November (eggs)	No. The study area does not contain habitat for this species.
<i>Desmoceris californicus dimorphus</i> Valley elderberry longhorn beetle	FT, CH/--/--	Known from Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties (NatureServe, 2011).	Found in riparian forest communities from 0 to 762 meters. Exclusive host plant is elderberry (<i>Sambucus</i> species), which must have stems at least 1-inch diameter for the beetle (NatureServe, 2011).	All Year	Yes. See text
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	FE, CH/--/--	Known from the Central Valley and the San Francisco Bay area from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Placer, Sacramento, San Joaquin, Shasta, Solano, and Yuba counties (USFWS, 1994).	Wide variety of ephemeral wetland habitats. Typically vernal pools on High Terrace landforms within annual grassland with clear to highly turbid water (USFWS, 1994).	Wet season: typically November-April (adults) Dry season: typically May-October (cysts)	No. The study area does not contain habitat for this species.
Fishes					
<i>Acipenser medirostris</i> Green sturgeon	FT/--/--	Adults occur in coastal waters from Mexico to Alaska and have been observed	Utilizes both freshwater and saltwater habitats. Spawning occurs in deep pools or	Consult Agency	No. The study area does not provide habitat for this

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
		along the west coast of North America. Spawning occurs within the Rogue and Illinois Rivers in Oregon, the Klamath River Basin, the Sacramento River, the Feather River, the Pit River, and the McCloud River. Spawning is suspected within the Trinity River, South Fork Trinity, and the Eel River. Known from Butte, Colusa, Glenn, Humboldt, Mendocino, Nevada, Placer, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehama, Trinity, Yolo, and Yuba counties (NatureServe, 2011).	holes in large, turbulent, freshwater river mainstems. Eggs are cast over large cobble, clean sand, or bedrock substrates. Cold, clean water is required for development. Adults live in oceanic waters, bays, and estuaries (NatureServe, 2011).		species.
<i>Archoplites interruptus</i> Sacramento perch	-/CSC/-	Occurs throughout the Sacramento-San Joaquin, the Pajaro, and the Salinas River systems and in Clear Lake, Lake County. Isolated and introduced populations also occur in Siskiyou, Modoc, and Lassen counties, Mono Lake in Mono County, and the Owens River watershed, in Inyo County.	Warm-water lenticrine habitats including sloughs, slow-moving rivers, and lakes. Frequently occurs in reservoirs and farm ponds. Often associated with beds of rooted, submerged, and emergent vegetation and other submerged objects. Aquatic vegetation is required for early development.	Consult Agency	No. The study area does not provide habitat for this species
<i>Hypomesus transpacificus</i> Delta smelt	FT/CT/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. May also occur in the San Francisco Bay.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	No. The study area does not provide habitat for this species.
<i>Oncorhynchus mykiss</i> Central Valley Steelhead	FT/--/--	Spawn in the Sacramento and San Joaquin rivers and tributaries before migrating to the Delta and Bay Area.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravely streambed.	Consult Agency	No. The study area does not provide habitat for this species
<i>Oncorhynchus tshawytscha</i> Chinook salmon Central Valley spring-run	FT, CH/CT/--	Spawn in the Sacramento River and some of its tributaries. Juveniles migrate from spawning grounds to the Pacific Ocean (Moyle, 2002).	Spawning occurs in large deep pools in tributaries with moderate velocities (Moyle, 2002).	Consult Agency	No. The study area does not contain habitat for this species.
<i>Oncorhynchus tshawytscha</i> Chinook salmon	FE/CE/--	Spawn in the upper Sacramento River. Juveniles migrate from spawning grounds	Returns to the Upper Sacramento River in the winter but delay spawning until spring	Consult Agency	No. The study area does not contain habitat for this species

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
winter-run, Sacramento River		to the Pacific Ocean (Moyle, 2002).	and summer. Juveniles spend 5-9 months in the river and estuary before entering the ocean (Moyle, 2002).		species.
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	--/CSC/--	Endemic to the Central Valley. Occurs below the Red Bluff Diversion Dam in Tehama County to the downstream reaches of the Sacramento and American Rivers. Also occurs in the lower reaches of the Feather, Merced, and the San Joaquin Rivers. This species is largely confined to the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and Sacramento-San Joaquin estuary (NatureServe, 2011).	Predominantly freshwater estuarine systems. Prefers low-salinity, shallow-water habitats. Occurs in slow-moving sections of rivers, sloughs, and marshes. Abundance is strongly tied to outflows, because spawning occurs over flooded vegetation (NatureServe, 2011).	Consult Agency	No. The study area does not contain habitat for this species.
Amphibians					
<i>Ambystoma californiense</i> California tiger salamander Central population	FT/--	Occurs in Alameda, Butte, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Sonoma, Stanislaus, Tulare, and Yolo counties.	Occurs in vernal pools, ephemeral wetlands, and seasonal ponds, including constructed stockponds, in grassland and oak savannah plant communities from 3 to 1,054 meters.	November-February (adults) March 15-May 15 (larvae)	No. The study area does not contain suitable habitat for this species.
<i>Rana aurora draytonii</i> California red-legged frog	FT/CSC/--	Known along the Coast from Mendocino County to Baja California, and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada mountains, south to eastern Tulare County, and possibly eastern Kern County. Currently accepted range excludes the Central Valley (NatureServe, 2011).	Found in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation from 0 to 1,160 meters (NatureServe, 2011).	November-June	No. The study area does not contain habitat for this species.
<i>Spea (=Scaphiopus) hammondi</i> Western spadefoot toad	--/CSC/--	Known from Butte, Calaveras, Fresno, Kern, Kings, Los Angeles, Madera, Merced, Monterey, Orange, Placer, Riverside, Sacramento, San Benito, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus, Tulare, Ventura, and Yolo counties.	Inhabits valley and foothill grasslands, open chaparral, and pine-oak woodlands. Prefers open vegetation and short grasses on sandy and gravelly soils from 0 to 4,500 feet. Breeds in quiet streams and temporary pools with temperatures between 48° F and 86° F.	January-May (breeds)	Yes. See text.
Reptiles					

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Actinemys marmorata</i> Western pond turtle	--/CSC/--	Known throughout California west of the Sierra-Cascade crest. Absent from desert regions except along the Mohave River and its tributaries (Stebbins, 2003).	Found in permanent ponds, lakes, streams, irrigation ditches, permanent pools and along intermittent streams. Requires aquatic habitats with suitable basking sites. Nest sites most often characterized as having gentle slopes less than 15 percent with little vegetation or sandy banks. Found from 0 to 1,430 meters (Stebbins, 2003).	All year	No. The study area does not contain habitat for this species.
<i>Thamnophis gigas</i> Giant garter snake	FT/CT/--	Known from Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba counties (Stebbins, 2003).	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover, emergent, herbaceous wetland vegetation for foraging and cover, grassy banks and openings in waterside vegetation for basking, and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south and west facing slopes, above prevailing flood elevations when dormant (Stebbins, 2003).	March-October	No. The study area does not contain habitat for this species.
Birds					
<i>Agelaius tricolor</i> Tricolored blackbird	--/CSC/--	Known from the Central Valley and surrounding foothills, throughout coastal and some inland localities in southern California, and scattered sites in Oregon, western Nevada, central Washington, and western coastal Baja California (NatureServe, 2011).	Found nesting in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water. Feeds in grass and cropland habitats (NatureServe, 2011).	All Year	No. Although the study area contains foraging habitat for this species, no adjacent breeding habitat occurs for this species.
<i>Athene cunicularia</i> Burrowing owl	--/CSC/--	Formerly common within the described habitats throughout the state except the northwest coastal forests and high mountains (NatureServe, 2011).	Yearlong resident of open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats (NatureServe, 2011).	All Year	Yes. See text.
<i>Buteo swainsoni</i> Swainson's hawk	--/CT/--	In California, breeds in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable	March-October	Yes. The study area contains foraging habitat for this species. See text.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FC/CE/--	Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, and in eastern San Luis Obispo County (NatureServe, 2011). Occurs at isolated sites in Sacramento Valley in n. California, and along Kern and Colorado River systems in s. California (Cornell Lab of Ornithology, 2011).	foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations (NatureServe, 2011). Frequents valley foothill and desert riparian habitats. Inhabits open woodlands with clearings, and riparian habitats with dense understory foliage along slow-moving drainages, backwaters, or seeps. Prefers dense willows for roosting, but will use adjacent orchard in the Sacramento Valley (Cornell Lab of Ornithology, 2011).	June - August	No. The study area does not contain habitat for this species.
<i>Elanus leucurus</i> White-tailed kite	--/CFP/--	Permanent resident of coastal and valley lowlands (NatureServe, 2011).	Habitats include savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nesting occurs in trees (NatureServe, 2011).	Year round	Yes. See text.
<i>Progne subis</i> Purple martin	--/CSC/--	Known from Mendocino, Napa, Sonoma, Lake, Riverside, Sacramento, San Luis Obispo, Placer, Shasta, San Diego and Monterey counties. Breeds from Alberta to New Brunswick, southward to central Texas and Florida. Also in scattered locations along Pacific Coast (NatureServe, 2011).	Found in a variety of wooded, low-elevations habitats. Uses Valley foothill and montane hardwood, valley foothill and montane hardwood-conifer, and riparian habitats. Also occurs in coniferous habitats, including closed-cone pine-cypress, ponderosa pine, Douglas-fir, and redwood (NatureServe, 2011).	All Year	No. The study area does not contain habitat for this species.
<i>Riparia riparia</i> Bank swallow	--/CT/--	Known from Siskiyou, Shasta, and Lassen counties, south along the Sacramento River to Yolo County, in California (NatureServe, 2011).	Inhabits primarily riparian and other lowland habitats west of the deserts during the spring-fall period. In summer, restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes (NatureServe, 2011).	April - July	No. The study area does not contain habitat for this species.
<i>Xanthocephalus xanthocephalus</i> Yellow-headed blackbird	--/CSC/--	Breeds from central British Columbia eastward to very western Ontario, southward into central California, central New Mexico, and northern Illinois. Scattered small populations further east along the Great Lakes to Ohio. Winters from southern Arizona and western Texas	Breeds in prairie wetlands and along other western lakes and marshes where tall reeds and rushes are present. Forages in the wetlands and in surrounding grasslands and croplands. In winter large flocks forage in agricultural areas (Tweed and Crawford, 1995).	Year round	No. Although the study area contains foraging habitat for this species, no adjacent breeding habitat occurs for this species.

SCIENTIFIC NAME COMMON NAME	FEDERAL/ STATE/ CNPS STATUS	DISTRIBUTION	HABITAT REQUIREMENTS	PERIOD OF IDENTIFICATION	POTENTIAL TO OCCUR ON-SITE
<i>Taxidea taxus</i> American badger	--/CSC/~	Known from most of California (Ahlborn, 2005).	Found in the drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Associated with treeless regions, prairies, parklands, cold desert areas, and occasionally cultivated lands (Ahlborn, 2005).	All Year	No. The study area does not contain denning habitat for this species due to lack of rodent burrows due to compacted soil within the nonnative grassland that is not comprised of friable soils.

STATUS CODES

FEDERAL: United States Fish and Wildlife Service

- FE Federally Endangered
- FT Federally Threatened
- FC Federal Candidate for Listing

STATE: California Department of Fish and Game

- CE California Listed Endangered
- CR California Listed Rare
- CT California Listed Threatened
- CSC California Species of Concern
- CFP California Fully-Protected

CNPS: California Native Plant Society

- List 1A Plants Presumed Extinct in California
- List 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
- List 2 Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

SOURCE: USFWS, 2010; CDFG, 2003; CNPS, 2011.

Solar Photovoltaic Park at 28th Street Landfill

Attachment C: Drainage Report, SCS Engineers, August 2, 2011

SCS ENGINEERS

August 2, 2011
File No. 01197137.05

Tom Buford
City of Sacramento
Community Development Department
300 Richards Blvd., 3rd floor
Sacramento, California 98511

Subject: Solar Photovoltaic Park at 28th Street Landfill
Evaluation of Effects on Landfill Drainage

Dear Mr. Buford:

SCS Engineers (SCS) has completed an evaluation of the effects that the Photovoltaic Park at 28th Street Landfill will have on the existing landfill final cover drainage system. The photovoltaic panels will be located on the surface of a closed Class III landfill that is regulated under California Code of Regulations (CCR) Title 27. This letter summarizes our findings and recommendations.

SCS was provided with the following information regarding the proposed Photovoltaic Park.

1. Draft Project Description including 30 percent Conergy drawings of the project.
2. Mounting Systems, Inc. tour on July 26, 2011.
3. Weights of ballast and support racks; and dimensions of ballast footings by Conergy email dated July 27, 2011.

EVALUATION

CCR Title 27 requires that proposed changes in the end use of a closed landfill must be reviewed and approved by CalRecycle and the California Regional Water Quality Control Board (RWQCB). Any proposed change in end use must not impact the performance of the cover and its drainage facilities.

The proposed photovoltaic system will be built in modules of 28 landscape oriented solar panels that are supported by aluminum structure that rests on four concrete ballast footings approximately (71" X 20" X 14"). The concrete footings will be placed on 0.5 to 1.0 foot thick pads of coarse gravel. There will be approximately 4,611 modules located on the landfill surface supporting a total of 83,000 solar panels (3' X 5' X 1.8"). See the attached calculations. Cables that transmit power from the modules to inverters and a substation will be placed on the surface of the landfill cover.



SCS calculated the area and load of the footings and gravel pads. The area of each footing is 9.9 sf. The total area of the footings is 45,650 square feet or just over 1 acre. The increase in runoff associated with the footing will not be significant, approximately 1 percent. The bearing load of each footing was calculated to be 321 pounds per square foot (lbs/sf). The maximum recommended load for a final landfill cover is 500 lbs/sf.

Based on SCS experience with landfill final covers, the potential effects of the above described photovoltaic installation on the closed 28th Street Landfill are the following:

- Increase in runoff will be approximately 1 percent – not significant and can be handled by existing drainage facilities
- Long-term settlement potential due to pad load of 321 lbs/sf – requires inspection and maintenance
- Localized erosion of vegetative layer soil adjacent to gravel pads – requires inspection and maintenance
- Erosion of the vegetative layer soil adjacent to power cables – requires inspection and maintenance
- Problems with vegetation growth – potential shading of areas, mowing under panels, and fire damage to the photovoltaic system

SCS RECOMMENDATIONS

Drainage – The estimated increase in runoff (approximately 1 percent) from this project will not be significant and will not require design changes or special maintenance. Perform periodic inspections and maintenance as required by the postclosure maintenance plan for the landfill.

Long-term settlement – Landfills settle over time which is part of the postclosure process. The loads of the solar module pads (321 lbs/sf) will increase the occurrence of localized differential settlement that will require moving the solar panel modules and placing additional soil and gravel to restore the grades. This condition will require repairs in addition to routine postclosure maintenance.

Localized erosion of vegetative Layer soil – The existing sheet flow runoff patterns at 28th Street Landfill will be interrupted by the presence of 4,611 gravel pads. The pads will be constructed with open graded gravel so water will pass through them; however, differences in material properties often lead to erosion of the weaker material. Random rill and gully erosion are anticipated adjacent to gravel pads. This condition will require inspections and repairs in addition to routine postclosure maintenance.

Erosion of the vegetative layer soil adjacent to power cables – If the power cables are placed on the surface of the vegetative layer, they can potentially block sheet flow patterns at 28th Street Landfill. The result will be localized erosion of the vegetative layer soil. The cable can be raised by blocks or similar supports to allow runoff to pass under the cable; however, there will

be erosion that cannot be eliminated using this procedure. This condition will require inspections and repairs in addition to routine postclosure maintenance.

Problems with vegetation growth – There are three potential problems with vegetative growth associated with the photovoltaic installation: 1) poor vegetative growth resulting from shading by the solar panels, 2) the need to mow under the panel modules, and 3) fire damage. To reduce the effects of shading, use shade tolerant grasses. Mow tall grasses and plants that are beneath the modules and panels to reduce the danger from fire that could potentially damage the solar panels. These conditions will require inspections and maintenance in addition to routine postclosure maintenance.

CLOSING

SCS appreciates the opportunity to perform this evaluation and provide recommendations for the proposed postclosure use as a photovoltaic park on 28th Street Landfill final cover.

If there are questions regarding our evaluation, please contact the undersigned.

Very truly yours,



Ambrose A. McCready, P.E.
Project Director
SCS ENGINEERS

Attachment

cc: Marty Strauss

ATTACHMENT

Area of Footings

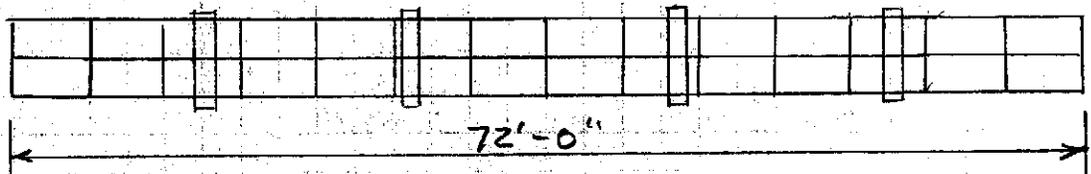
No. panels per rack = 28 Ea

Weight of rack = 1,375 lb

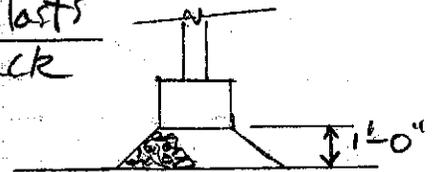
Weight of ballast = 1,500 Ea

Dimension of ballast = 71" x 20" x 14"

No. Panels = 83,000 Modules



$$\begin{aligned} \text{No. Ballasts} &= \frac{83,000 \text{ Panels}}{72 \frac{\text{Panels}}{\text{Rack}}} \times \frac{4 \text{ Ballasts}}{\text{Rack}} \\ &= 4,611 \text{ Ballasts} \end{aligned}$$



$$\text{Area per Ballast} = 71'' \times 20'' \times \frac{1}{144 \frac{\text{IN}^2}{\text{FT}^2}} = 9.9 \text{ FT}^2$$

$$\begin{aligned} \text{Total Ballast Area} &= 9.9 \text{ FT}^2 \times 4,611 \text{ Ballasts} \\ &= 45,649 \text{ FT}^2 \end{aligned}$$

$$\begin{aligned} \text{Vol. Gravel} &= 2 \text{ FT}^3 \times 4,611 \text{ Ballast} \\ &= 9222 \text{ FT}^3 \\ &= 342 \text{ CY} \end{aligned}$$

Gradation 3/8" - 3/4" 100 percent

28th Street

7/28/11

oam

2/2

Bearing Load

$$\text{Racks} = \frac{7,375 \text{ lbs}}{4 \text{ Ballasts}} \div \frac{1}{9.9 \text{ FT}^2} = 186 \frac{\text{lbs}}{\text{FT}^2}$$

$$\text{Gravel} = 2 \text{ FT}^3 \times \frac{135 \text{ lbs}}{\text{FT}^3} \div \frac{1}{2 \text{ FT}^2} = 135 \frac{\text{lbs}}{\text{FT}^2}$$

$$\begin{aligned} \text{Total Bearing} &= 186 \frac{\text{lbs}}{\text{FT}^2} + 135 \frac{\text{lbs}}{\text{FT}^2} \\ &= 321 \frac{\text{lbs}}{\text{FT}^2} \end{aligned}$$

Recommended < 500 $\frac{\text{lbs}}{\text{FT}^2}$ OK

McCready, Ambrose

From: Oscar Murcia [O.Murcia@conergy.us]
Sent: Wednesday, July 27, 2011 4:31 PM
To: McCready, Ambrose
Cc: David Vincent; Marty Strauss; Tom Buford
Subject: FW: Conoergy Solar Rack Tour

Ambrose,

Here is the information, please let me know if you have any more questions:

Weight of a 2x14 rack

Approx. 623 kg = 1375 lb

Weight of the ballast blocks

Approx 2700 kg = 6000 lb

Dimensions of the ballast blocks

LW/H: 71"x20"x14"

Best Regards,

Oscar M

From: Marty Strauss [<mailto:MStrauss@cityofsacramento.org>]
Sent: Wednesday, July 27, 2011 3:53 PM
To: Oscar Murcia
Cc: David Vincent
Subject: Re: Conoergy Solar Rack Tour

Thank you

From: Oscar Murcia [<mailto:O.Murcia@conergy.us>]
Sent: Wednesday, July 27, 2011 03:40 PM
To: Marty Strauss
Cc: David Vincent <d.vincent@conergy.us>
Subject: RE: Conoergy Solar Rack Tour

Solar Photovoltaic Park at 28th Street Landfill

Attachment D: URBEMIS Report (Air Quality)

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8/31/2011 9:05:04 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: U:\My Documents\Projects\Neg Decs\CIP Neg Decs\Solar Urbemis.urb924

Project Name: solar test

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

8/31/2011 9:05:04 AM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (lbs/day unmitigated)	2.46	17.99	14.96	0.01	0.24	1.16	1.40	0.06	1.07	1.12	2,792.15
2013 TOTALS (lbs/day unmitigated)	2.25	16.51	14.44	0.01	0.24	1.03	1.27	0.06	0.94	1.00	2,792.44
2014 TOTALS (lbs/day unmitigated)	2.07	15.06	13.96	0.01	0.24	0.89	1.13	0.06	0.82	0.88	2,792.71

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.12	0.02	1.55	0.00	0.01	0.01	2.81

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	13.81	0.71	1.51	0.00	0.04	0.03	341.49

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	13.93	0.73	3.06	0.00	0.05	0.04	344.30

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice	1/1/2014-12/2/2014	2.07	15.06	13.96	0.01	0.24	0.89	1.13	0.06	0.82	0.88	2,792.71
Active Days:	240											
Building	01/02/2012-12/31/2014	1.28	9.11	10.42	0.01	0.04	0.59	0.63	0.01	0.54	0.56	1,910.35
Building	Off Road Diesel	1.04	7.17	5.99	0.00	0.00	0.51	0.51	0.00	0.47	0.47	916.52
Building	Vendor Trips	0.17	1.83	1.85	0.01	0.02	0.07	0.10	0.01	0.07	0.08	616.77
Building	Worker Trips	0.07	0.11	2.58	0.00	0.02	0.01	0.02	0.01	0.01	0.01	377.06
Fine Grading	01/02/2012-12/02/2014	0.79	5.95	3.54	0.00	0.20	0.30	0.50	0.04	0.28	0.32	882.36
Fine Grading	Dust	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.04	0.00	0.04	0.00
Fine Grading	Off Road Diesel	0.78	5.93	3.16	0.00	0.00	0.30	0.30	0.00	0.28	0.28	826.42
Fine Grading	On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading	Worker Trips	0.01	0.02	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.94
Time Slice	12/3/2014-12/31/2014	1.28	9.11	10.42	0.01	0.04	0.59	0.63	0.01	0.54	0.56	1,910.35
Active Days:	21											
Building	01/02/2012-12/31/2014	1.28	9.11	10.42	0.01	0.04	0.59	0.63	0.01	0.54	0.56	1,910.35
Building	Off Road Diesel	1.04	7.17	5.99	0.00	0.00	0.51	0.51	0.00	0.47	0.47	916.52
Building	Vendor Trips	0.17	1.83	1.85	0.01	0.02	0.07	0.10	0.01	0.07	0.08	616.77
Building	Worker Trips	0.07	0.11	2.58	0.00	0.02	0.01	0.02	0.01	0.01	0.01	377.06

Phase Assumptions

Phase: Fine Grading 1/2/2012 - 12/2/2014 - Type Your Description Here

Total Acres Disturbed: 3.9

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 1/2/2012 - 12/31/2014 - Default Building Construction Description

Off-Road Equipment:

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products							
Architectural Coatings							
TOTALS (lbs/day, unmitigated)	0.12	0.02	1.55	0.00	0.01	0.01	2.81

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM25	CO2
General heavy industry	13.81	0.71	1.51	0.00	0.04	0.03	341.49
TOTALS (lbs/day, unmitigated)	13.81	0.71	1.51	0.00	0.04	0.03	341.49

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 95 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acres	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General heavy industry	0.01	1000 sq ft	1,685.00	16.85	176.08	176.08

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	10.0	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	43.7	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	0.0	54.3	45.7	0.0

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	88.9	11.1

Travel Conditions

	Residential				Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3	
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				

% of Trips - Commercial (by land use)

General heavy industry

90.0 5.0 5.0

Page: 1

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: U:\My Documents\Projects\Neg Decs\CIP Neg Decs\Solar Urbemis.urb924

Project Name: solar test

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (lbs/day unmitigated)	2.46	17.99	14.96	0.01	0.24	1.16	0.06	1.07	1.12	2,792.15
2013 TOTALS (lbs/day unmitigated)	2.25	16.51	14.44	0.01	0.24	1.03	0.06	0.94	1.00	2,792.44
2014 TOTALS (lbs/day unmitigated)	2.07	15.06	13.96	0.01	0.24	0.89	0.06	0.82	0.88	2,792.71

AREA SOURCE EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	0.95	0.96	1.32	0.00	0.04	0.03	317.86

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

TOTALS (lbs/day, unmitigated)	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
	0.95	0.96	1.32	0.00	0.04	0.03	317.86

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 1/1/2014-12/2/2014 Active Days: 240	2.07	15.06	13.96	0.01	0.24	0.89	1.13	0.06	0.82	0.88	2,792.71
Building 01/02/2012-12/31/2014	1.28	9.11	10.42	0.01	0.04	0.59	0.63	0.01	0.54	0.56	1,910.35
Building Off Road Diesel	1.04	7.17	5.99	0.00	0.00	0.51	0.51	0.00	0.47	0.47	916.52
Building Vendor Trips	0.17	1.83	1.85	0.01	0.02	0.07	0.10	0.01	0.07	0.08	616.77
Building Worker Trips	0.07	0.11	2.58	0.00	0.02	0.01	0.02	0.01	0.01	0.01	377.06
Fine Grading 01/02/2012-12/02/2014	0.79	5.95	3.54	0.00	0.20	0.30	0.50	0.04	0.28	0.32	882.36
Fine Grading Dust	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	0.78	5.93	3.16	0.00	0.00	0.30	0.30	0.00	0.28	0.28	826.42
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.01	0.02	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55.94
Time Slice 12/3/2014-12/31/2014 Active Days: 21	1.28	9.11	10.42	0.01	0.04	0.59	0.63	0.01	0.54	0.56	1,910.35
Building 01/02/2012-12/31/2014	1.28	9.11	10.42	0.01	0.04	0.59	0.63	0.01	0.54	0.56	1,910.35
Building Off Road Diesel	1.04	7.17	5.99	0.00	0.00	0.51	0.51	0.00	0.47	0.47	916.52
Building Vendor Trips	0.17	1.83	1.85	0.01	0.02	0.07	0.10	0.01	0.07	0.08	616.77
Building Worker Trips	0.07	0.11	2.58	0.00	0.02	0.01	0.02	0.01	0.01	0.01	377.06

Phase Assumptions

Phase: Fine Grading 1/2/2012 - 12/2/2014 - Type Your Description Here

Total Acres Disturbed: 3.9

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 1/2/2012 - 12/31/2014 - Default Building Construction Description

Off-Road Equipment:

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscaping - No Winter Emissions							
Consumer Products							
Architectural Coatings							
TOTALS (lbs/day, unmitigated)							

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM25	CO2
General heavy industry	0.95	0.96	1.32	0.00	0.04	0.03	317.86
TOTALS (lbs/day, unmitigated)	0.95	0.96	1.32	0.00	0.04	0.03	317.86

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Temperature (F): 50 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General heavy industry		0.01	1000 sq ft	1,685.00	16.85	176.08
					16.85	176.08

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	10.0	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	43.7	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	0.0	54.3	45.7	0.0

Vehicle Type	Vehicle Fleet Mix					
	Percent Type	Non-Catalyst	Catalyst	Diesel		
School Bus	0.0	0.0	0.0	100.0		
Motor Home	0.0	0.0	88.9	11.1		
<u>Travel Conditions</u>						
Residential						
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
Commercial						
% of Trips - Commercial (by land use)				90.0	5.0	5.0
General heavy industry						

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: U:\My Documents\Projects\Neg Decs\CIP Neg Decs\Solar Urbemis.urb924

Project Name: solar test

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (tons/year unmitigated)	0.32	2.35	1.95	0.00	0.03	0.15	0.18	0.01	0.14	0.15	364.38
2013 TOTALS (tons/year unmitigated)	0.29	2.15	1.88	0.00	0.03	0.13	0.17	0.01	0.12	0.13	364.41
2014 TOTALS (tons/year unmitigated)	0.26	1.90	1.79	0.00	0.03	0.11	0.14	0.01	0.10	0.11	355.18

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.01	0.00	0.14	0.00	0.00	0.00	0.25

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.74	0.14	0.26	0.00	0.01	0.01	60.88

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.75	0.14	0.40	0.00	0.01	0.01	61.13

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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2014	0.26	1.90	1.79	0.00	0.03	0.11	0.14	0.01	0.10	0.11	355.18
Building 01/02/2012-12/31/2014	0.17	1.19	1.36	0.00	0.01	0.08	0.08	0.00	0.07	0.07	249.30
Building Off Road Diesel	0.14	0.94	0.78	0.00	0.00	0.07	0.07	0.00	0.06	0.06	119.61
Building Vendor Trips	0.02	0.24	0.24	0.00	0.00	0.01	0.01	0.00	0.01	0.01	80.49
Building Worker Trips	0.01	0.01	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Fine Grading 01/02/2012-12/02/2014	0.09	0.71	0.42	0.00	0.02	0.04	0.06	0.01	0.03	0.04	105.88
Fine Grading Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.09	0.71	0.38	0.00	0.00	0.04	0.04	0.00	0.03	0.03	99.17
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.71

Phase Assumptions

Phase: Fine Grading 1/2/2012 - 12/2/2014 - Type Your Description Here

Total Acres Disturbed: 3.9

Maximum Daily Acreage Disturbed: 0.01

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 1/2/2012 - 12/31/2014 - Default Building Construction Description

Off-Road Equipment:

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products							
Architectural Coatings							
TOTALS (tons/year, unmitigated)	0.01	0.00	0.14	0.00	0.00	0.00	0.25

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
General heavy industry	1.74	0.14	0.26	0.00	0.01	0.01	60.88
TOTALS (tons/year, unmitigated)	1.74	0.14	0.26	0.00	0.01	0.01	60.88

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2013 Season: Annual

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
General heavy industry	0.01	1000 sq ft	1,685.00	16.85	176.08	176.08
				16.85	176.08	176.08

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	10.0	0.6	99.2	0.2
Light Truck < 3750 lbs	10.0	2.0	93.0	5.0
Light Truck 3751-5750 lbs	22.6	0.4	99.2	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	43.7	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	0.0	54.3	45.7	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

General heavy industry

90.0 5.0 5.0

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION RE: Grant Number PIR-11-005-01, Sacramento Municipal Utility District

WHEREAS the State Energy Resources Conservation and Development Commission (Energy Commission) is considering whether to approve Amendment 1 to Grant Number PIR-11-005 to implement Phase II of a solar photovoltaic park project; and

WHEREAS the project involves the installation and operation of solar modules at a former landfill located on property owned by the city of Sacramento; and

WHEREAS the city of Sacramento adopted a Mitigated Negative Declaration on September 13, 2011 that considers the environmental effects of the solar park project, and the City Council approved the project on May 7, 2013; and

WHEREAS the Energy Commission has reviewed the city of Sacramento's Mitigated Negative Declaration, has no information that indicates the city's environmental documentation is inadequate, and has considered the city's Mitigated Negative Declaration in deciding whether to approve Phase II of the solar photovoltaic park project;

THEREFORE BE IT RESOLVED that the Energy Commission approves of Amendment #1 to Grant Number PIR-11-005 to implement Phase II of the solar photovoltaic park project.

FURTHER BE IT RESOLVED, that this document authorizes the Executive Director or his/her designee to execute the same on behalf of the Energy Commission.

RESOLVED,

Dated: November 11, 2013

STATE ENERGY RESOURCES
CONSERVATION AND
DEVELOPMENT COMMISSION

ROBERT B. WEISENMILLER
Chairman