SOUTHERN CALIFORNIA EDISON'S LAKEVIEW SUBSTATION PROJECT

CPUC A.10-09-016
SCH #: 2010121032

Appendices

Prepared for
California Public Utilities Commission

January 2012

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225 Bush Street
Suite 1700
San Francisco, CA 94104
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APPENDIX A
Scoping Report

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LAKEVIEW SUBSTATION PROJECT

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Prepared for
California Public Utilities Commission

February 2011

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SCOPING REPORT
Lakeview Substation Project

1. Introduction

Southern California Edison Company (SCE) has filed an application (A.10-09-016) with the California Public Utilities Commission (CPUC) for a Permit to Construct (PTC) the Lakeview Substation Project (Project). Based on its review of the application and the Proponent's Environmental Assessment, the CPUC decided to prepare an Environmental Impact Report (EIR) for the Project. As contemplated in CEQA Guidelines Section 15060(d), no initial study was prepared. The CPUC formally began the process of determining the scope of issues and alternatives to be evaluated in the EIR (a process called "scoping") when it issued a Notice of Preparation (NOP) for the Project on December 9, 2010.

The NOP initiated agency consultation about the scope and content of information to be analyzed in the EIR and invited early public input about potential environmental concerns (Pub. Res. Code § 21080.4(a); CEQA Guidelines §§ 15082(b), 15083). CEQA Guidelines Section 15083 provides that a "Lead Agency may…consult directly with any person…it believes will be concerned with the environmental effects of the project." Scoping is the process of early consultation with the affected agencies and public prior to completion of a Draft EIR. Section 15083(a) states that scoping can be "helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important." Scoping is an effective way to bring together and consider the concerns of affected State, regional, and local agencies, the project proponent, and other interested persons (CEQA Guidelines § 15083(b)).

This Scoping Report provides an overview and a summary of the written and oral comments provided by agencies and individuals during the scoping period, which closed on January 24, 2011. Comments were accepted through January 27, 2011. Although CEQA provides for a 30-day scoping period (Pub. Res. Code § 21080.4(a)), the CPUC elected to extend it in light of the winter holidays. Consequently, from the date of the NOP until January 27, 2011, the scoping period for the Project lasted 49 days. The CPUC will use this Scoping Report as a tool to ensure the preparation of a comprehensive EIR tailored to agency and community concerns. Pursuant to CEQA Guidelines Section 15082, all public comments will be considered[1] in the EIR process.

[1] Comments not within the scope of CEQA will not be addressed through the CEQA process.

2. Description of the Project

2.1 Project Summary

The proposed Project consists of the following elements:

- Construction of a new 115/12 kilovolt (kV) substation (Lakeview Substation). Lakeview Substation would be an unattended, automated 56 mega volt ampere (MVA) 115/12 kV low-profile substation located on a 5.4-acre parcel in the unincorporated community of Lakeview in Riverside County;
- Installation of two new 115 kV subtransmission source line segments to connect the proposed substation to the existing Valley-Moval 115 kV subtransmission line;
- Construction of two new underground 12 kV distribution getaways;
- Installation of telecommunications facilities at the proposed Lakeview Substation, inclusive of telecommunication cable (overhead and underground) to connect the proposed substation to SCE's existing telecommunications network, and upgrades to the telecommunications equipment at various substations; and
- Decommissioning of two existing substations: Nuevo Substation and Model Pole Top Substation.

2.2 Project Location

The Project is proposed for development in unincorporated western Riverside County. The substation would be located at the southwest corner of 10th Street and Reservoir Avenue, in the community of Lakeview. One of the 115 kV source subtransmission line segments would extend northwest of Lakeview Substation, the other to the southwest. The distribution getaways and decommissioning activity also would occur in Lakeview. Installation of new and upgrades to existing telecommunications facilities would occur in Riverside County, in and near the communities of Nuevo and Lakeview.

3. Opportunities for Public Comment

3.1 Notification

On Thursday, December 9, 2010, the CPUC published and distributed an NOP to solicit guidance from federal, State and local agencies on the scope and content of information to be considered in an EIR for the Project. A copy of the NOP was sent to the State Clearinghouse of the Office of Planning and Research, which assigned 2010121035 as the Project's unique State identification number. The NOP described the Project, included a map showing the location of proposed components of the Project and identified potential environmental impacts; a copy of the NOP is provided in Appendix A.

In addition to soliciting agency input, the CPUC invited public participation in a workshop and scoping meeting for the Project through multiple newspaper legal advertisements and the CPUC's website. The CPUC published two legal advertisements in the Press-Enterprise: one on December 29, 2010, the other on January 2, 2011. Copies of the newspaper notices are provided in Appendix B. An electronic copy of the NOP also was posted on the CPUC's website at: http://www.cpuc.ca.gov/Environment/info/esa/lakeview/index.html. A copy of the CPUC's webpage for the Project 9as of January 31, 2011) is provided in Appendix C.

3.3 Public Workshop and Scoping Meeting

The CPUC conducted a public workshop and scoping meeting on Thursday, January 13, 2011 at Mountain Shadows Middle School, located at 30401 Reservoir Avenue, Nuevo, California. The workshop was held from 6:30 p.m. to 7:00 p.m.; the scoping meeting was held immediately thereafter, from 7:00 p.m. until 8:30 p.m. One member of the public attended. Michael Rosauer of the CPUC, Janna Scott and Julie Holst of Environmental Science Associates (ESA), and four representatives of SCE also attended. The sign-in sheet from the scoping meeting is provided in Appendix D.

Meeting attendees were provided with materials including presentation slides, written comment forms, and speaker cards. Copies of the NOP also were available upon request. During the workshop, explanations were provided concerning participants and their roles, the CPUC's decision and environmental review process, and what opportunities exist for public participation. During the scoping meeting, a Project overview was provided, alternatives identified by SCE were presented, ideas about other possible alternatives were solicited, next steps were outlined, and public comments were accepted. A court reporter's transcript of the public comments portion of the scoping meeting is included in Appendix F.

4. Summary of Scoping Comments

One member of the public provided comments on the Project during the January 13, 2011, public scoping meeting (see Appendix F). The CPUC received additional comments in writing during the comment period. Copies of the written comments are provided in Appendix G. In addition to the scoping meeting testimony, six written letters were received. Commenting parties and summaries of the comments received are provided below.

4.1 Commenting Parties

The following individuals and parties submitted comments on the scope of the EIR. These comments are organized by date of receipt; comments received after the formal comment period are also included.

TABLE 1
PARTIES SUBMITTING COMMENTS DURING
THE LAKEVIEW SUBSTATION PROJECT EIR SCOPING PROCESS

Name	Organization	Date/Received Date
Written Comments		
Scott Morgan, Director	State Clearinghouse	December 13, 2010
Joseph Shaer, Transportation Planner	California Department of Transportation (Caltrans)	December 15, 2010
Dave Singleton, Program Analyst	Native American Heritage Commission	December 17, 2010
Thomas Ybarrola, Trustee	Ybarrola Living Trust	December 29, 2010
Edwin Quinonez, Senior Civil Engineer	Riverside County Flood Control and Water Conservation District	January 12, 2011
Ben Johnson, Fire Facilities Planner	Riverside County Fire Department, Strategic Planning Bureau	January 25, 2011
Oral Comments		
Michael Foley, Chairman	Lakeview - Nuevo Municipal Advisory Council	January 13, 2011

4.2 Comments Received During the Scoping Process

The following discussion summarizes both the oral and written comments received during the scoping period. For more detailed information, please see Appendix F, which contains the January 13, 2011, Scoping Meeting transcript, and Appendix G, which contains copies of the written comments received on the Project.

Specific comments are categorized by topical areas to enable easier review of the comments.

4.2.1 Issues to Be Considered under CEQA

Biological Resources

- The Riverside County Flood Control and Water Conservation District is signatory to the Western Riverside County Municipal Species Habitat Conservation Plan (MSHCP). If it is anticipated that the application will request that the District own, operate, and maintain the above referenced facilities, the applicant will need to demonstrate that all construction related activities within the District right-of-way or easement are consistent with the MSHCP. To accomplish this, the CEQA document should include a MSHCP consistency report with all of its supporting documents and provide adequate mitigation in accordance with all applicable MSHCP requirements. The MSHCP consistency report should address, at a minimum, Sections 3.2, 3.2.1, 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.3 and Appendix C of the MSHCP (Riverside County Flood Control and Water Conservation District).

- The Project area is a wildlife corridor. That is a very sensitive issue in the Lakeview community. The Project location is at the fringe of the community and the residents. The commenter believes that it is much better for the Project to be closer to residents than in the middle of the wildlife corridor (Foley).

Cultural Resources

- The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendment effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of a historical resource, that includes archeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) (per the California Code of Regulations 15064.5(b)(c)(f) CEQA guidelines). Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed Project, including…objects of historic of aesthetic significance. The lead agency is required to assess whether the Project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. State law also addresses Native American Religious Expression in Public Resources Code 5079.9 (Native American Heritage Commission).

- The Native American Heritage Commission performed a Sacred Lands File (SLF) search in the NAHC SLF inventory, established by the Legislature pursuant to Public Resources Code 5097.94(a) and Native American Cultural Resources were NOT identified within one-half mile of several of the Area of Potential Effect (APE). However, there are Native American cultural resources in close proximity to the APE. Also, it is important to understand that the absence of archeological, Native American cultural resources in an area does not indicate that they are not present, or will be present once ground-breaking activity begins. The NAHC recommends early consultation with Native American tribes in your area as the best way to avoid unanticipated discoveries once a project is underway and to learn of any sensitive cultural areas. Enclosed are the names of the culturally affiliated tribes and interested Native American individuals that the NAHC recommends as 'consulting parties,' for this purpose, that may have knowledge of the religious and cultural significance of the historic properties in the Project area (e.g. APE). A Native American Tribe or Tribal Elder may be the only source of information about a cultural resource. Also the NAHC recommends that a Native American Monitor or Native American culturally knowledgeable person be employed whenever a professional archeologist is employed during the "Initial Study' and in other phases of the environmental planning processes (Native American Heritage Commission).

- The NAHC recommends that the CPUC contact the California Historic Resources Information System (CHRIS) of the Office of Historic Preservation (OHP), for information on recorded archeological data. This information is available at the OHP Office in Sacramento (916) 445-7000 (Native American Heritage Commission).

- Consultation with interested Native American tribes and interested Native American individuals, as consulting parties, on the attached NAHC list (see Appendix G) should be conducted in compliance with the requirements of the federal NHPA (16 U.S.C. 470 [f)] et seq.), 36 CFR Part 800.3, .4 & .5, the President's Council on Environmental Quality (CSQ; 42 U.S.C. 4371 et seq.) and NAGPRA (25 U.S.C. 3001-3013), as appropriate. The 1992 Secretary of the Interior's Standards for the Treatment of Historic Properties were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code 65040.12(e) (Native American Heritage Commission).

- Lead agencies should consider avoidance, as defines in Section 15370 of the CEQA Guidelines when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5079.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'. Discussion of these should be included in the environmental document, as appropriate (Native American Heritage Commission).

- The authority for the Sacred Lands File (SLF) record search of the Native American Heritage Commission (NAHC) Sacred Lands Inventory, established by the California Legislature, is California Public Resources Code 5097.94(a) and is exempt from the California Public Records Act (c.f. California Government Code 6254.10). The results of the SLF search are confidential. However, Native Americans on the attached contact list (see Appendix G) are not prohibited from and may wish to reveal the nature of indentified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of the National Historic Protection Act of at the Secretary of the Interior's discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C. 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the area of potential effects (APE) and possibly threatened by proposed Project activity (Native American Heritage Commission).

- CEQA Guidelines, Section 15064.5(d) require the lead agency to work with the Native Americans identified by this Commission if the Initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native Americans, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens. Although tribal consultation under CEQA is advisory rather than mandated, the NAHC does request lead agencies to work with tribes and interested Native American individuals as consulting parties, on the list provided by the NAHC in order that cultural resources will be protected (Native American Heritage Commission).

- The 2006 Senate Bill 1059 the State enabling legislation to the Federal Energy Policy Act of 2005, does mandate tribal consultation for the electric transmission corridors. This is codified in the California Public Resources Code, Chapter 4.3, and 25330 to Division 15, requires consultation with California Native American tribes, and identifies both federally recognizes and non-federally recognized on a list maintained by the NAHC (Native American Heritage Commission).

- Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and Section 15064.5(d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. Note that Section 7052 of the Health and Safety Code states that disturbance of Native American cemeteries is a felony (Native American Heritage Commission).

Hydrology and Water Quality

- The Project is located within the limits of the Riverside County Flood Control and Water Conservation District's Lakeview-Nuevo Area Drainage Plan for which drainage fees have been adopted; applicable fees should be paid by cashier's check or money order only to the Flood Control District prior to issuance of grading permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit (Riverside County Flood Control and Water Conservation District).

- The Project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. Clearance for grading, recordation or other final approval may not be given until the Project has been granted a permit or is shown to be exempt (Riverside County Flood Control and Water Conservation District).

- If the Project involves a Federal Emergency Management Agency (FEMA) mapped floodplain, the applicant is required to provide all studies, calculations, plans and other information required to meet FEMA requirements, and should obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation or other final approval of the Project, and a Letter of Map Revision (LOMR) prior to occupancy (Riverside County Flood Control and Water Conservation District).

- If a natural watercourse of mapped floodplain in impacted by the Project, the applicant is required to obtain a Section 1602 Agreement from the California Department of Fish and Game and a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, or written correspondence from these agencies indicating the Project is exempt from these requirements. A Clean Water Act Section 401 Water Quality Certification may be required from the local California Regional Water Quality Control Board prior to issuance of the Corps 404 permit (Riverside County Flood Control and Water Conservation District).

- If the Project were to be moved closer, flood plain issues would arise (Foley).

Public Services

- There must be compliance with all applicable laws, ordinances and resolutions (LORS) during construction and operation of the proposed substation and all supporting improvements as described and including two new sub transmission source line segments; two new underground d distribution getaways; telecommunication cable; upgrades to the telecommunications equipment; and decommissioning of two existing substations (Riverside County Fire Department).

- There must be adherence to any agreements reached as part of safety mitigation for all project improvements as identified (Riverside County Fire Department).

- There must be adherence to all applicable safety-related mitigation measures of the forthcoming EIR (Riverside County Fire Department).

Transportation and Traffic

- The San Bernardino County Planning Department was unable determine precise project locations and potential impacts to the State Highway Facilities, and requested an electronic

copy of the map and/or a list of APN numbers for the Project (San Bernardino County). *The map and a list of APN numbers were sent via email.*

Alternatives Analysis

- The Commenter understands that it is technically possible to install 115 kv transmission lines underground. If the proposed Project must include a transmission line through its property, then recommends that it be installed underground to negate the visual/aesthetic environmental impact and reduce exposure to Electric and Magnetic Fields (Ybarrola).

- Commenter has noticed communities where overhead transmission lines that were installed decades ago are now being moved underground. This relocation underground is to reduce the visual/aesthetic impact on the surrounding environment. The commenter is curious as to why the proposed transmission line would not go underground initially to preempt any additional work requirements to reduce impacts in the future (Ybarrola).

4.2.2 Issues Not Analyzed under CEQA

The EIR will be used to guide decision-making by the CPUC by providing an assessment of the potential environmental impacts that may result from the Project. The weighing of project benefits (environmental, economic, or otherwise) against adverse environmental effects is outside the scope of the EIR. When the CPUC meets to decide on SCE's application for the proposed Project, the CPUC will consider the EIR (which will disclose potential environmental effects of the proposed Project and alternatives) along with other considerations. Then, it will decide whether to approve or deny the Project based on all of the information in the record.

The EIR will not consider electric and magnetic fields (EMF) in the context of the CEQA analysis because [1] there is no agreement among scientists that EMF creates a potential health risk, and [2] there are no defined or adopted CEQA standards for defining health risk from EMF. Presently, there are no applicable federal, State or local regulations related to EMF levels from power lines or related facilities, such as substations. Nonetheless, in accordance with GO 131D, Section X and CPUC decision D.06-01-042, the CPUC requires applicants for a PTC to develop an EMF Management Plan for each project that implements "low-cost" or "no-cost" measures for managing EMF from power lines up to approximately four percent of total project cost. SCE included an EMF Field Management Plan in Appendix F to its application for this Project. This information will be summarized for informational purposes in the EIR.

The EIR will not consider comments related to whether or not SCE has the proper easements or rights-of-way for construction, operation, or maintenance of the Project. Negotiations of rights-of-way or easements would occur between SCE and the property owner and acquisition of an easement would not result in a physical impact to the environment, and therefore would be outside the scope of CEQA. Any physical impacts that would occur within newly acquired ROW as part of the Project would be assessed in the EIR or a subsequent CEQA document. One comment was received related to proposed rights-of-way:

- District facilities are located within the proposed Project area and may be impacted. Any project that involves District right-of-way, easements of facilities should be coordinated

with us. To obtain further information on encroachment permits or existing facilities, contact Ed Lotz of the District's Encroachment Permit at 951.955.1266 (Riverside County Flood Control and Water Conservation District).

The EIR will not consider comments that pertain to SCE's determination of project need. Public Utilities Code section 1001 et seq. and General Order 131-D establish a distinction in the review levels a project receives based on the voltage level proposed. For proposed projects of 200 kV or more (the threshold above which a certificate of public convenience and necessity is required), an Administrative Law Judge (ALJ) must administer an assessment of the project need and costs when an application is filed. No such requirement applies to an application for a PTC.

Further, pursuant to CEQA, the EIR will not consider comments that relate to potential economic impacts, such a property values, except to the extent such impacts could cause a physical change in the environment. Although not a part of the EIR, economic considerations will be taken into account by the CPUC as part of its decision-making process for the application. One comment was received related to potential impacts on property values:

- The commenter is not opposed to the proposed substation but is concerned about the 115 kV transmission line and is in opposition to its installation. His family trust owns approximately 100 acres between 10th and 11th Streets and the proposed transmission line divides our property in half. His family has farmed this property for over 60 years and sees that land ideal for future real estate development. A transmission line thru the property would vastly reduce its value (Ybarrola).

4.2.3 General Opposition to the Project

One comment expressed general opposition to the Project:

- The commenter is opposed to the Project transmission line. At the very least, if a transmission line must be installed bisecting his property, then the landowner's preference is to have it installed underground (Ybarrola).

4.2.4 General Support for the Project

Four comments expressed general support for the Project:

- The community is in favor of the Project the way it is designed. The commenter does not understand why SCE would build anything smaller until it absolutely is forced to (Foley).

- The commenter states that the community has already had development approved by the Board of Supervisors and wonders if the approved development would be able to proceed if the proposed Project is rejected (Foley).

- The commenter is concerned that if the Lakeview does not get the infrastructure and improvements that it needs, that the existing community would feel the effect. The sooner the Project be completed, the better (Foley).

- The commenter compliments SCE on having been a great party with which to work. SCE has attended many advisory council meetings, and has been a great partner. SCE has been

involved with the Lakeview community for a while and it has been nice to have SCE representatives around. They have even visited resident's homes to answer questions the residents may have. They have discussed all of their projects with the community and have handled opposition very well. The commenter is pleased with the notification and communication process between SCE and the Lakeview community (Foley).

5. Consideration of Issues Raised in Scoping Process

A primary purpose of this Scoping Report is to document the process of soliciting and identifying comments from agencies and the public. The scoping process provides the means to determine those issues that interested participants consider to be the principal areas for study and analysis. Every issue that has been raised that falls within the scope of CEQA during scoping will be addressed and/or be considered in the EIR.

APPENDIX A
Notice of Preparation

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PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

To: **State Clearinghouse, Responsible and Trustee Agencies, Property Owners, & Interested Parties**

From: **Michael Rosauer, Environmental Project Manager**

Subject: **NOTICE OF PREPARATION (NOP) OF AN ENVIRONMENTAL IMPACT REPORT (EIR) AND NOTICE OF AN INFORMATIONAL WORKSHOP AND SCOPING MEETING:**
Permit to construct electrical facilities with voltages between 12 kV and 66kV: Lakeview Substation Project (A.10-09-016)

Date: **December 9, 2010**

Description of Proposed Project
Pursuant to the California Environmental Quality Act (CEQA), the State of California Public Utilities Commission (CPUC) is preparing an EIR for the Proposed Project identified below, and is requesting comments on the scope and content of the EIR. Southern California Edison (SCE), in its CPUC application (A.10-09-016), filed on September 17, 2010, seeks a permit to construct (PTC) the Lakeview Substation Project (Proposed Project), which includes the following major elements:

- Construction of a new 115/12 kilovolt (kV) substation (Lakeview Substation). Lakeview Substation would be an unattended, automated 56 MVA 115/12 kV low-profile substation located on a 5.4-acre parcel in the unincorporated community of Lakeview in Riverside County;
- Installation of two new 115 kV subtransmission source line segments to connect the proposed Lakeview Substation to the existing Valley-Moval 115 kV subtransmission line;
- Construction of two new underground 12 kV distribution getaways;
- Installation of telecommunications facilities at the proposed Lakeview Substation, inclusive of telecommunication cable (overhead and underground) to connect the proposed Lakeview Substation to the SCE telecommunications network, and upgrades to the telecommunications equipment at the various substations; and
- Decommissioning of two existing substations: Nuevo Substation and Model Pole Top Substation.

The purpose of the Proposed Project is to maintain system reliability and serve projected electrical demand without overloading the existing electric facilities that supply western Riverside County.

Location of the Proposed Project
The Proposed Project is located in portions of unincorporated Riverside County. The substation site would be located in the community of Lakeview, and the subtransmission source lines would be located in unincorporated Riverside County, including the communities of Lakeview and Nuevo. See Figure 1.

Issues To Be Addressed In The EIR
It has been determined that a full EIR is required because the Proposed Project could result in potentially significant environmental impacts. The EIR will address all of the issues identified in the California Environmental Quality Act (CEQA) Environmental Checklist Form (see CEQA Guidelines Appendix G). The EIR will identify the potentially significant environmental effects of the Proposed Project, including, but not limited to, potential effects of Project construction, operation and maintenance. The EIR also will discuss and analyze a reasonable range of alternatives to the Proposed Project, including a No Project alternative, and alternatives to the Proposed Project that could attain most of its basic objectives while

avoiding or reducing any of its significant environmental effects.

The Proposed Project and alternatives considered two potential substation sites and two potential subtransmission source routes that would connect the substation to the existing Valley-Moval subtransmission line, two new 12 kV underground distribution getaways, and telecommunications facilities to connect the substation to SCE's existing telecommunication system. Substation sites to be analyzed include: (A) an approximate 5.4-acre portion of a 36.2-acre parcel in the community of Lakeview, that is vacant and privately-owned, and (B) an approximate six-acre portion of an 11.8-acre parcel in the community of Lakeview that is privately-owned and currently being used for agricultural activities. Subtransmission source lines to be analyzed include: (1) installation of a 1.8 mile segment and a 1.5 mile segment of new subtransmission lines across land currently used for agricultural activities (2) installation of a 1.8 mile segment and a 1.9 mile segment of new subtransmission lines across land currently used for agricultural activities. Other alternatives may be added based on input received during this NOP review period or by the EIR team in response to potentially significant environmental impacts identified during the EIR process.

Specific areas of analysis to be addressed in the EIR include: aesthetics, agriculture resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems. Where feasible, mitigation measures will be recommended to avoid or reduce potentially significant impacts. The EIR also will address potential cumulative impacts of the Proposed Project, considered together with past, other current and reasonably foreseeable future projects in the area.

Information to be included in the EIR will be based, in part, on input and comments received during the NOP review period. Decision-makers, responsible and trustee agencies under CEQA, property owners, and interested persons and parties also will have an opportunity to comment on the Draft EIR after it is published and circulated for public review. For additional information about the CEQA review of the Proposed Project, go to: http://www.cpuc.ca.gov/Environment/info/esa/lakeviewsubstation/index.html.

Public Scoping Period for this Notice of Preparation
State law mandates a 30-day time limit after the date of the notice of preparation for the scoping period. The scoping period for this Project begins on Thursday, December 9, 2010, and would close at 5:00 p.m. on Monday, January 24, 2011. However, in light of winter holidays, the CPUC elects to extend the scoping period for the Proposed Project to 45 days. Accordingly, please send your response at the earliest possible date, but no later than 45 days after the date of this notice. Please include a name, organization (if applicable), address, and e-mail address of a contact person for all future notification related to this process. Public comments will become part of the public record and will be published in a Scoping Report.

Please send your comments to:

Mr. Michael Rosauer
Lakeview Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104
E-mail: lakeviewsubstation@esassoc.com
Fax: (415) 896-0332

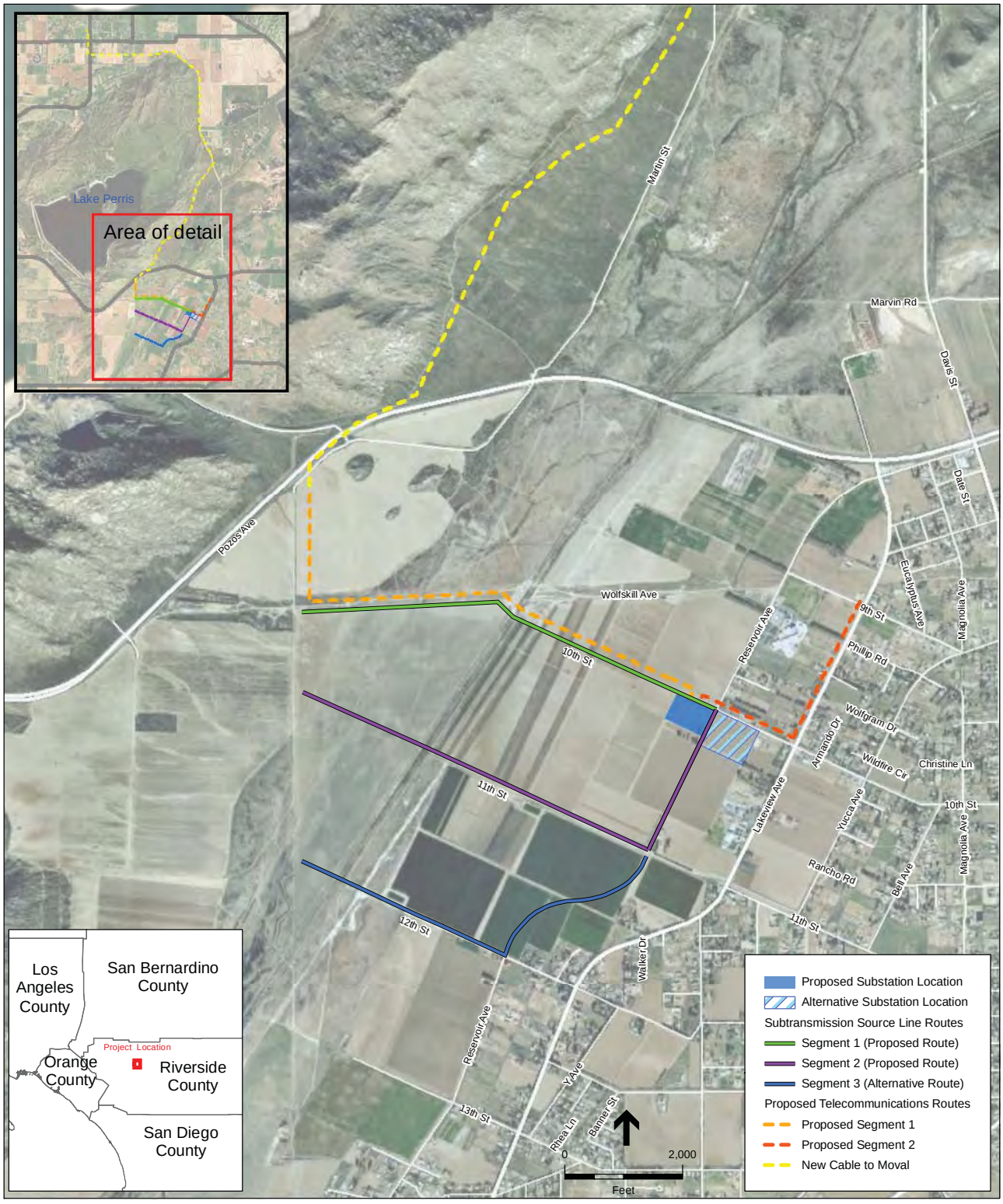
Educational Workshop and Scoping Meeting
In order for the public and regulatory agencies to have an opportunity to submit comments on the scope of the EIR, a meeting will be held during the NOP scoping period. The meeting will be held:

Thursday, January 13, 2011
6:30 p.m. – 8:30 p.m.
Mountain Shadows Middle School
Multi-purpose Room
30401 Reservoir Avenue
Nuevo, CA 92567-9263

From 6:30 to 7:00, the CPUC will hold an educational workshop. This workshop will address: a) CPUC's process for reviewing the Proposed Project application; b) California Environmental Quality Act (CEQA) review process for construction, operation and maintenance of the Proposed Project; and c) details on how the public can become involved with both planning processes.

From 7:00 to 8:30 the CPUC will hold the official scoping meeting. The scoping meeting will start with a brief presentation providing an overview of the Proposed Project and alternatives identified to date. Following the presentation, interested parties will be provided an opportunity to provide comments about the Proposed Project. Comment forms will be supplied for those who wish to submit written comments at the scoping meeting. Written comments also may be submitted anytime during the NOP scoping period to the address, e-mail or facsimile number listed above.

REMINDER: All comments will be accepted by postmark, e-mail or facsimile through Monday, January 24, 2010. Please be sure to include your name, organization (if applicable), address, and e-mail address.



SOURCE: SCE, 2010

Lakeview Substation and Transmission Line Project

Figure 1

Site Location Map

APPENDIX B
Newspaper Notice

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THE PRESS-ENTERPRISE

3450 Fourteenth Street
Riverside CA 92501-3878
951-684-1200
951-368-9018 FAX

PROOF OF PUBLICATION
(2010, 2015.5 C.C.P.)

Press-Enterprise

PROOF OF PUBLICATION OF

Ad Desc.: California Public Utilities

I am a citizen of the United States. I am over the age of eighteen years and not a party to or interested in the above entitled matter. I am an authorized representative of THE PRESS-ENTERPRISE, a newspaper of general circulation, printed and published daily in the County of Riverside, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of Riverside, State of California, under date of April 25, 1952, Case Number 54446, under date of March 29, 1957, Case Number 65673 and under date of August 25, 1995, Case Number 267864; that the notice, of which the annexed is a printed copy, has been published in said newspaper in accordance with the instructions of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

12-29-10
01-02-11

I Certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: Jan. 2, 2011
At: Riverside, California

ESU ENERGY GROUP

225 BUSH ST SUITE 1700
SAN FRANCISCO CA 94104

Ad #: 10507404

PO #:

Agency #: _____

Ad Copy:

California Public Utilities Commission
Notice of Preparation of an Environmental Impact Report (EIR) and Educational Workshop/Scoping Meeting for the Lakeview Substation Project

Notice is hereby given that the California Public Utilities Commission (CPUC) has released a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Lakeview Substation Project for public review and comment. The EIR will address potential direct, indirect and cumulative impacts of the construction, operation and maintenance of the proposed project and alternatives. Information to be included in the EIR also will be based on input and comments received during the NOP scoping period, which is open from December 9, 2010 until 5:00 p.m. on January 24, 2011. The NOP is available for public review on the Project website at: http://www.cpuc.ca.gov/Environment/info/esa/lakeview/index.html. The website provides access to public documents and information about the environmental review process for this project and will be updated during the review process to include announcements of upcoming public meetings and other information about the project. A copy of the NOP also may be requested by telephone at (415) 962-8492. Comments may be submitted in writing to: Mr. Michael Rosauer, c/o ESA, 225 Bush Street, Suite 1700, San Francisco, CA 94104; by fax to (415) 896-0332; or by email to lakeviewsubstation@esassoc.com. Additionally, the CPUC will hold an educational workshop and Scoping Meeting on **Tuesday, January 13, 2011 at Mountain Shadows Middle School**, 30401 Reservoir Avenue, Nuevo, California 92567. The educational workshop (**6:30 p.m.-7:00 p.m.**) will address the CPUC's processes for reviewing the project application and analyzing environmental impacts of the project as well as how the public can participate. The formal Scoping Meeting will be held from **7:00 to 8:30 p.m.** All members of the public are invited to attend the scoping meeting. Following the scoping period, the CPUC will prepare a Draft EIR that will consider comments received. Decision-makers, responsible and trustee agencies under CEQA, property owners, and interested persons and parties will have an opportunity to comment on the Draft EIR when it is published for review. 12/29,1/2

THE PRESS-ENTERPRISE

3450 Fourteenth Street
Riverside CA 92501-3878
951-684-1200
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PROOF OF PUBLICATION
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12-29-10
01-02-11

I Certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: Jan. 2, 2011
At: Riverside, California

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225 BUSH ST SUITE 1700
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APPENDIX C
Project Website Notification

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STATE OF CALIFORNIA
PUBLIC UTILITIES COMMISSION

Southern California Edison's Lakeview Substation Project

(Application A.10-09-016, filed September 17, 2010)

Welcome to the California Public Utilities Commission (CPUC) website for the California Environmental Quality Act (CEQA) review of proposed construction of Southern California Edison's (SCE) Lakeview Substation Project. An application for this project was submitted to the CPUC on September 17, 2010 (Application A.10-09-016). This site provides access to public documents and information relevant to the CEQA review process.

Files linked on this page are in Portable Document Format (PDF). To view them, you will need to download the free Adobe Acrobat Reader if it is not already installed on your PC.
Note: For best results in displaying the largest files (see sizes shown in parentheses below for files larger than 3.0 MB), right-click the file's link, click "Save Target As" to download the file to a folder on your hard drive, then browse to that folder and double-click the downloaded file to open it in Acrobat.

Background

The CPUC is preparing an Environmental Impact Report (EIR) for the Lakeview Substation Project, and is requesting comments on the scope and content of the EIR. SCE seeks a permit to construct (PTC) the Lakeview Substation, which includes the following major elements:

- Construction of a new 115/12 kV substation (Lakeview Substation). The Lakeview Substation would be an unattended, automated, low-profile substation constructed and operated on an approximately 5.4-acre site in the unincorporated Riverside County community of Lakeview;
- Installation of two new 115 kV subtransmission source line segments to connect the proposed Lakeview Substation to the existing Valley-Moval 115 kV subtransmission line. One segment would be approximately 1.8 miles in length to form the new Valley-Lakeview 115 kV subtransmission line; the other would be approximately 1.5 miles in length to form the new Lakeview-Moval 115 kV subtransmission line.;
- Construction of two new underground 12 kV distribution getaways;
- Installation of telecommunications facilities at the proposed Lakeview Substation, including telecommunication cable (overhead and underground) to connect the proposed Lakeview Substation to the SCE telecommunications network, and upgrades to the telecommunications equipment at the various substations; and
- Decommissioning of two existing substations: the Nuevo Substation and the Model Pole Top Substation.

The purpose of the Proposed Project is to serve the current and projected demand for electricity, and enhance reliability and system operational flexibility in the developing areas of Lakeview, Nuevo and adjacent areas in unincorporated western Riverside County.

Environmental Review

Preliminary CEQA Process Schedule	
Notice of Preparation to solicit written input from agencies and the public	December 9, 2010 - January 24, 2011
Agency consultation meetings	December 2010 - January 2011
Public Information (Scoping) Meeting	January 13, 2011
Publication of Draft EIR for agency and public review	July 2011
Public and agency review period (45 days from release of Draft EIR)	July - September 2011
Public comment meeting(s) will be held in the project area	August 2011
Consider and respond to comments, publish Final EIR	September - October 2011

Public Scoping Period

On December 9, 2010 the CPUC published a Notice of Preparation (NOP) of an EIR for the Lakeview Substation Project (A.10-09-016). Click here to view the NOP.

Educational Workshop and Scoping Meeting

In order for the public and regulatory agencies to have an opportunity to submit comments on the scope of the EIR, a meeting will be held during the NOP scoping period. The meeting will be held at:

Thursday, January 13, 2011
6:30 p.m. - 8:30 p.m.
Mountain Shadows Middle School
Multi-purpose Room
30401 Reservoir Avenue
Nuevo, CA 92567-9263

From 6:30 to 7:00, the CPUC will hold an educational workshop. This workshop will address: a) CPUC's process for reviewing the Proposed Project application; b) California Environmental Quality Act (CEQA) review process for

construction, operation and maintenance of the Proposed Project; and c) details on how the public can become involved with both planning processes.

From 7:00 to 8:30 the CPUC will hold the official scoping meeting. The scoping meeting will start with a brief presentation providing an overview of the Proposed Project and alternatives identified to date. Following the presentation, interested parties will be provided an opportunity to provide comments about the Proposed Project. Comment forms will be supplied for those who wish to submit written comments at the scoping meeting. Written comments also may be submitted anytime during the NOP scoping period to the address, e-mail or facsimile number listed above.

Proponent's Environmental Assessment (PEA)

To view the Application or PEA prepared by SCE for the project click a link below:

- Application
- PEA Volume 1 [26.8mb]
- PEA Volume 2 - Appendices [33.8mb]

To go to the SCE website for the project click here.

For Additional Information

The CPUC, through its Environmental Review Team, manages environmental review of the project. To request additional information or to be added to the mailing list, please contact us by email, fax, or phone, as follows:

Project email: lakeviewsubstation@esassoc.com
Project voice mail: (415) 962-8492
Project fax: (415) 896-0332

This page contains tables and is best viewed with Firefox or Internet Explorer.
Please report any problems to the Energy Division web coordinator.

Project Home Page - CPUC Environmental Information - CPUC Home - Top

APPENDIX D

Scoping Meeting Attendance Sheets

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Southern California Edison's Lakeview Substation Project
Environmental Impact Report Educational Workshop/Scoping Meeting
Hosted by the California Public Utilities Commission (CPUC)

Meeting Location: Mountain Shadows Middle School, 30401 Reservoir Avenue, Nuevo, California 92567.

Date/Time: Thursday, January 13, 2011 at 6:30 p.m. to 8:30 p.m.

Name	Affiliation	Address	Email address (optional)
MIKE FOLEY	R.C.M.A.C.	31431 CONTOUR AVE NUEVO CA 92567	mpfoley8@msn.com

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APPENDIX E
Scoping Meeting Presentation

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California Public Utilities Commission
Public Workshop & Scoping Meeting

Southern California Edison
Lakeview Substation Project

January 13, 2011
Lakeview, California

1

Participants and their Roles

- CPUC: California Environmental Quality Act (CEQA) Lead Agency
- Southern California Edison: Project Applicant
- Public Agencies
- Members of the Public

2

Workshop Agenda

- CPUC Decision and Review Processes
  - Environmental Evaluation
  - General Proceeding
  - Decision-making
- Opportunities for Public Involvement

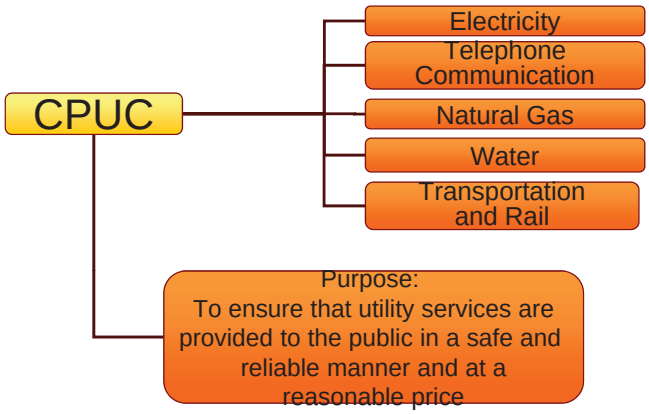
3

Scoping Meeting Agenda

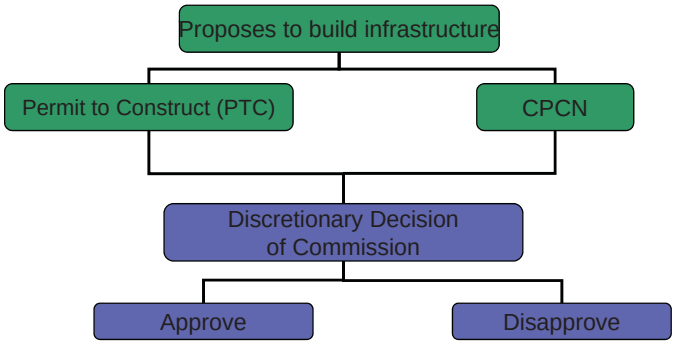
- Project Overview
  - Background
  - Project Purpose and Need
  - Project Description
- Alternatives
- Next Steps
- Public Comment
  - Speaker Cards
  - Comment Forms

4

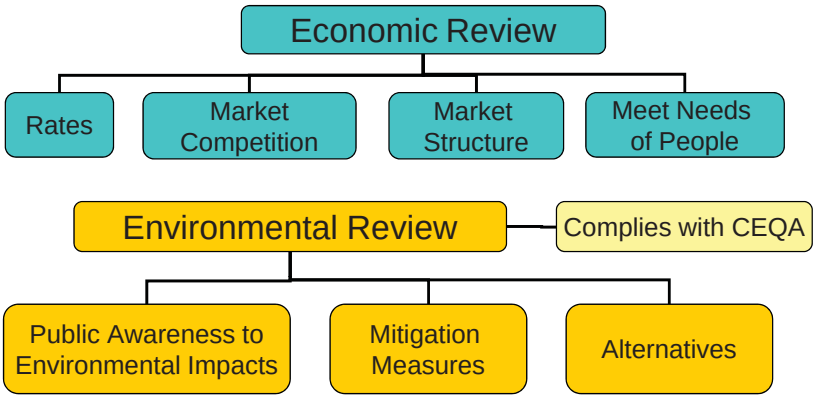
Who does the CPUC regulate?



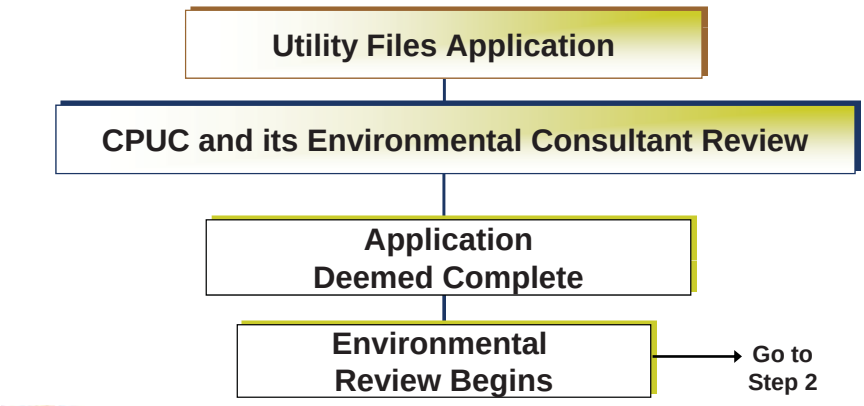
Permit to Construct



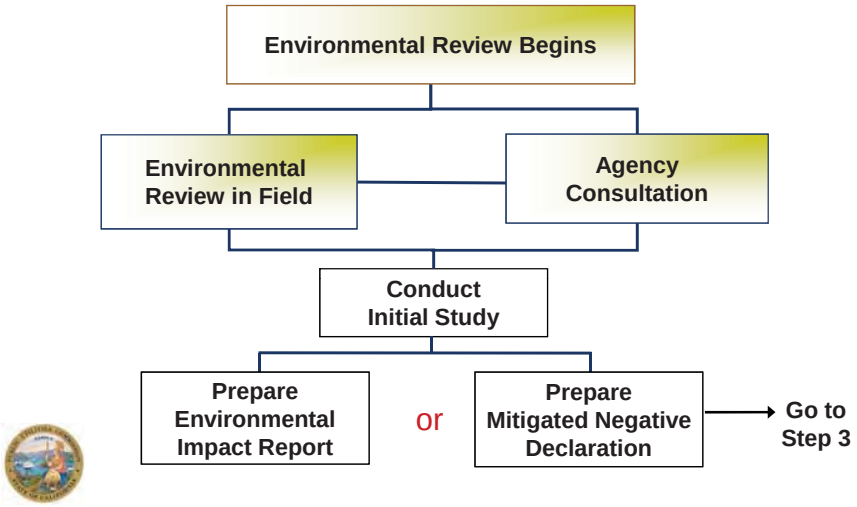
CPUC Review Process



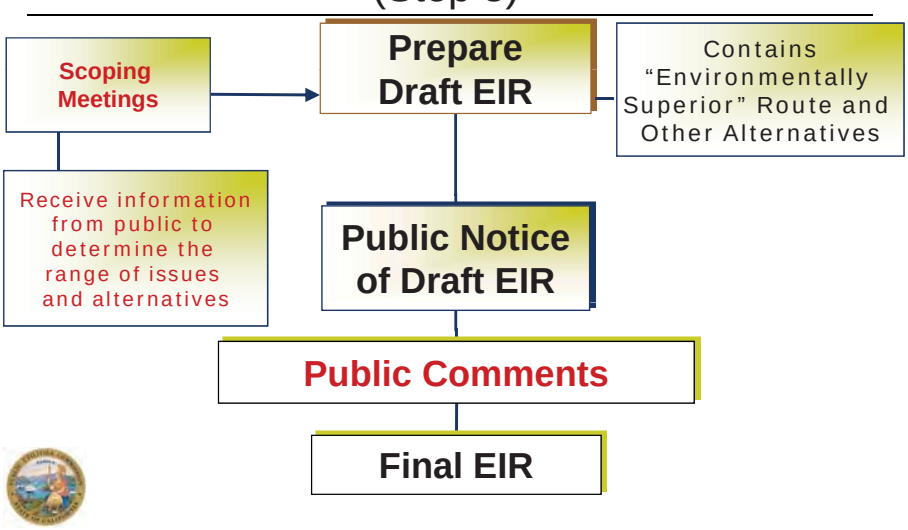
Decision & Environmental Review Process (Step 1)



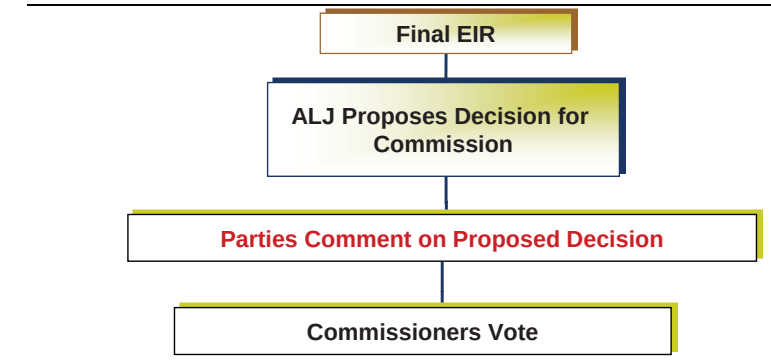
Decision & Environmental Review Process (Step 2)



Decision & Environmental Review Process (Step 3)



Decision & Environmental Review Process (Step 4)



Public Participation

- Environmental Review
  - Scoping
  - Draft EIR
- General Proceeding
  - Participate in Pre-hearing Conference (if held)
  - File a Protest or Response to an Application (within 30 days after the application is filed)
  - File a Motion to Become a Party (any time, at discretion of ALJ)
  - Public Participation Hearing (if held)

12

Contact Information

Mr. Mike Rosauer
Lakeview Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104
Fax: (415) 896-0332

E-mail:
lakeviewsubstation@esassoc.com

Website:
http://www.cpuc.ca.gov/Environment/info/esa/lakeview/index.html

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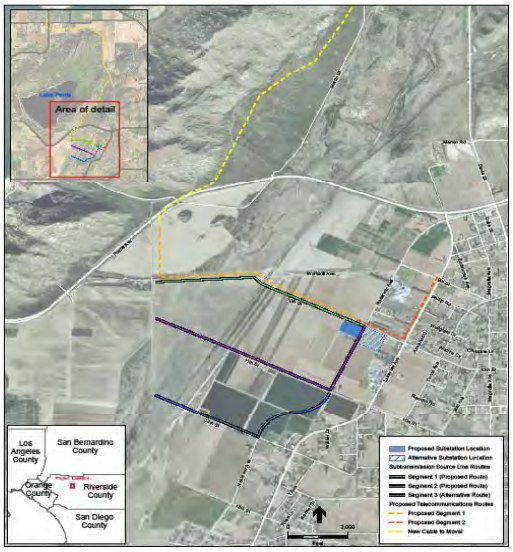
Scoping Meeting Agenda

- Project Overview
  - Background
  - Project Purpose and Need
  - Project Description
- Alternatives
- Next Steps
- Public Comment
  - Speaker Cards
  - Comment Forms

14

Proposed Project Location



SOURCE: SCE, 2010

Lakeview Substation and Transmission Line Project
Figure 1
Site Location Map

SCE's Project Purpose and Need

- Maintain system reliability for the approximately 1,800 SCE customers currently served by SCE's existing Nuevo Substation (33/12 kV) and temporary Model 33/12 kV PT Substation
- Serve long-term projected electrical demand requirements
- Be operational by June 2013

16

Project Description Overview

- One new 115/12 kilovolt (kV) substation
- Two new underground 12 kV distribution "getaways"
- Two new 115 kV subtransmission line segments to serve the new substation
- New and upgraded fiber optics to connect the substation to SCE's existing system
- Decommissioning the Nuevo Substation and Model Pole Top Substation

17

New Lakeview Substation

- Construction of one new, unattended, automated 56 megavolt-ampere (MVA) 115/12 kilovolt (kV) substation on approximately 2.7 acres of a 5.4-acre parcel located in the community of Lakeview
- Substation capacity could expand to 112 MVA as necessary

18

Distribution Getaways

- Two new underground vaults would be installed underground outside the substation walls either on the substation site, on private property, or in the utility ROW on 10th Street and Reservoir Street.
- Getaway 1 would exit the substation site to the northeast, toward 10th Street, approximately 50-75 feet into a new vault.
- Getaway 2 would exit the substation site to the southeast, towards Reservoir Street, approximately 50-75 feet into a new vault.
- The two vaults would be connected by a duct bank that would be up to approximately 900 feet in length.

19

Subtransmission Source Lines

- Two new 115 kV subtransmission source line segments would connect the new substation to the existing Valley-Moval 115 kV subtransmission line
- Segment 1 would be approximately 1.8 miles in length to form the new Valley-Lakeview 115 kV subtransmission line
- Segment 2 would be approximately 1.5 miles in length to form the new Lakeview-Moval 115 kV subtransmission line

20

Telecommunications (Fiber Optics)

- Three new fiber optic cable routes would connect the proposed substation to nearby substations
- Telecommunications equipment at various substations also would be upgraded
- Some access road rehabilitation could be required along the existing Valley-Moval Subtransmission Line

21

Decommission Existing Substations

- Decommission Nuevo 33/12 kV Substation
  - Near the corner of Lakeview Ave. and Palm Dr.
  - Would be retired/facilities removed once the proposed substation becomes operational.
- Decommission Model Pole Top 33/12 kV Substation
  - At the corner of Lakeview Ave. and East Lakeview Ave.
  - Would be retired/facilities removed once the proposed substation becomes operational.

22

Alternatives

- Project Alternatives
  - 33/12 kV Substation Project
  - No Project
- Substation Site Alternative
- Subtransmission Line Route Alternative
- To Be Determined

23

Next Steps

- Notice of Preparation was circulated to solicit input from agencies and the public: You can submit comments on the scope and contents of the EIR on or before Monday, January 24, 2011.
- This meeting is part of the scoping process.
- The CPUC will circulate a Draft EIR agency and public comments;
- Consider comments and address them in Final EIR;
- Consider the EIR and other factors;
- Issue a draft decision on the Project;
- Consider comments on draft and alternate decisions and vote on the Project

24

How to Comment

Please submit scoping comments no later than Monday, January 24, 2011:

Mr. Mike Rosauer
Lakeview Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104
Fax: (415) 896-0332

E-mail:
lakeviewsubstation@esassoc.com
Website:
http://www.cpuc.ca.gov/Environment/info/esa/lakeview/index.html

25

Public Comment

26

Discussion Guidelines

- One person to speak at a time
- Be concise
- Stay on topic
- Support everyone's participation
- Respect others' opinions
- Written comments are encouraged

27

APPENDIX F
Scoping Meeting Transcript

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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Permit to Construct Electrical Facilities with Voltages Between 50kV and 200 kV: Lakeview Substation Project

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

TRANSCRIPT OF PROCEEDINGS

Thursday, January 13, 2011

Nuevo, California

Reported by:
Terri L. Emery,
CSR No. 11598, CCR
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

I N D E X

* * *

Nuevo, California;

Thursday, January 13, 2011; 8:05 p.m.

* * *

MR. FOLEY: As it stands now, we are -- in all the discussion, I said we are in favor of the project the way it is designed, the primary design here. I don't understand why you would build anything smaller until you're absolutely forced into it. I don't get the point.

We've already had a development approved on through the planning process and been approved by the Board of Supervisors that I'm sure you're all aware of obviously, and so there's no way that's going to happen if this doesn't happen. Is that correct? Assuming. Nobody can say yes to that or no?

MR. ROSAUER: During this part of the meeting is actually our opportunity to listen to what your concerns are, and if that's a concern, we'll definitely take that into consideration and look at that.

MR. FOLEY: I'd also be concerned if it doesn't go, if we don't get the infrastructure and improvements that we do need, that the existing community is going to feel the effects of that, according to what I'm hearing, within two years. Right? Very possibly.

MR. ROSAUER: It's possible.

MR. FOLEY: The sooner, the better.

MR. ROSAUER: This is the very beginning of the environmental process, so the company has provided preliminary environmental input which we'll independently analyze, did our own analysis. Like Mike stated, we started the field work already.

MR. FOLEY: From the environmental standpoint, this is the wildlife corridor through here and is a very sensitive issue in our community. We've hammered that out literally for years and years. This location here is at the fringe obviously of the community and the residents, I should say, and it's much better to be up closer to us than it is in the middle of the wildlife corridor down here. So to move it anywhere closer -- and of course, you have some flood plane issues that I'm sure you're all aware of. It couldn't happen down here any further. I think it's another reason it's a great location.

MR. ROSAUER: That's great input. Thank you.

MR. FOLEY: What else?

MR. ROSAUER: If you hear of anyone who is interested in the project or has ideas that relate to the environmental analysis and potential impacts, the scoping period closes next Monday the 24th, and so it's great that you're here and we can hear from you personally about comments and concerns. All comments are equal. People should feel welcome to send an E-mail, letter, fax,

whatever. As long as it's at least postmarked by the date, we'll make sure it's considered as we draft the Environmental Impact Report.

MR. FOLEY: Which then goes to you folks. Right?

MR. ROSAUER: And it will come back to you as a -- it's a document that you can learn from. You can look at and it should -- if it's -- if it's constructed as well as we expect it to be, it will document all of the impacts and so it should inform the community.

MR. FOLEY: We're very familiar with those EIRs out here, so they can get pretty lengthy too. Okay. I don't really have any other questions on the project.

MR. ROSAUER: Thank you for coming.

MR. FOLEY: I will say that SCE has been a great party. They've come to a lot of boring advisory council meetings on nights they would rather not be here and they come all the time. They're a great partner. Not just saying that. They've been involved with the community out here for a while and it's always nice to have people -- I think they've even come to residents' homes when questions have been asked or whatever, so they're very good about that and that's what we appreciate out here. All the projects that have been talked about, the input has been sometimes pretty fierce from our end and they've done a good job of handling everything. So got to give kudos to

the County because they're making sure everybody does communicate with us and it's been a good process so far. So you got that on the record?

(Proceedings concluded at 8:09 p.m.)

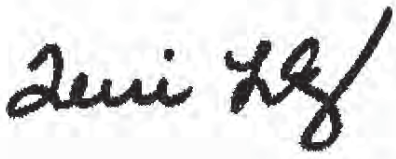
* * *

REPORTER'S CERTIFICATION

I, Terri L. Emery, Certified Shorthand Reporter, in and for the State of California, do hereby certify:

That the foregoing witness was by me duly sworn; that the deposition was then taken before me at the time and place herein set forth; that the testimony and proceedings were reported stenographically by me and later transcribed into typewriting under my direction; that the foregoing is a true record of the testimony and proceedings taken at that time.

IN WITNESS WHEREOF, I have subscribed my name this 25th day of January, 2011.



Terri L. Emery, CSR No. 11598, CCR

APPENDIX G
Scoping Period Written Comments

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2010121035

STATE OF CALIFORNIA — ARNOLD SCHWARZENEGGER, Governor

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

To: State Clearinghouse, Responsible and Trustee Agencies, Property Owners, & Interested Parties

From: Michael Rosauer, Environmental Project Manager

Subject: NOTICE OF PREPARATION (NOP) OF AN ENVIRONMENTAL IMPACT REPORT (EIR) AND NOTICE OF AN INFORMATIONAL WORKSHOP AND SCOPING MEETING:
Permit to construct electrical facilities with voltages between 12 kV and 66kV: Lakeview Substation Project (A.10-09-016)

Date: December 9, 2010

Description of Proposed Project
Pursuant to the California Environmental Quality Act (CEQA), the State of California Public Utilities Commission (CPUC) is preparing an EIR for the Proposed Project identified below, and is requesting comments on the scope and content of the EIR. Southern California Edison (SCE), in its CPUC application (A.10-09-016), filed on September 17, 2010, seeks a permit to construct (PTC) the Lakeview Substation Project (Proposed Project), which includes the following major elements:

- Construction of a new 115/12 kilovolt (kV) substation (Lakeview Substation). Lakeview Substation would be an unattended, automated 56 MVA 115/12 kV low-profile substation located on a 5.4-acre parcel in the unincorporated community of Lakeview in Riverside County;
- Installation of two new 115 kV subtransmission source line segments to connect the proposed Lakeview Substation to the existing Valley-Moval 115 kV subtransmission line;
- Construction of two new underground 12 kV distribution getaways;
- Installation of telecommunications facilities at the proposed Lakeview Substation, inclusive of telecommunication cable (overhead and underground) to connect the proposed Lakeview Substation to the SCE telecommunications network, and upgrades to the telecommunications equipment at the various substations; and
- Decommissioning of two existing substations: Nuevo Substation and Model Pole Top Substation.

The purpose of the Proposed Project is to maintain system reliability and serve projected electrical demand without overloading the existing electric facilities that supply western Riverside County.

Location of the Proposed Project
The Proposed Project is located in portions of unincorporated Riverside County. The substation site would be located in the community of Lakeview, and the subtransmission source lines would be located in unincorporated Riverside County, including the communities of Lakeview and Nuevo. See Figure 1.

Issues To Be Addressed In The EIR
It has been determined that a full EIR is required because the Proposed Project could result in potentially significant environmental impacts. The EIR will address all of the issues identified in the California Environmental Quality Act (CEQA) Environmental Checklist Form (see CEQA Guidelines Appendix G). The EIR will identify the potentially significant environmental effects of the Proposed Project, including, but not limited to, potential effects of Project construction, operation and maintenance. The EIR also will discuss and analyze a reasonable range of alternatives to the Proposed Project, including a No Project alternative, and alternatives to the Proposed Project that could attain most of its basic objectives while

Arnold Schwarzenegger
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Cathleen Cox
Acting Director

Notice of Preparation

December 13, 2010

To: Reviewing Agencies

Re: Permit to Construct Electrical Facilities with Voltages between 12kV and 66kV: Lakeview Substation Project (A.10-09-016)
SCH# 2010121035

Attached for your review and comment is the Notice of Preparation (NOP) for the Permit to Construct Electrical Facilities with Voltages between 12kV and 66kV: Lakeview Substation Project (A.10-09-016) draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Mr. Michael Rosauer
California Public Utilities Commission
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2010121035
Project Title Permit to Construct Electrical Facilities with Voltages between 12kV and 66kV: Lakeview Substation Project (A.10-09-016)
Lead Agency Public Utilities Commission

Type NOP Notice of Preparation

Description The purpose of the proposed project is to maintain system reliability and serve projected electrical demand without overloading the existing electric facilities that supply western Riverside County.

Lead Agency Contact

Name Mr. Michael Rosauer
Agency California Public Utilities Commission
Phone (415) 896-5900 **Fax** 415 896-0332
email lakeviewsubstation@esassoc.com
Address c/o Environmental Science Associates
225 Bush Street, Suite 1700
City San Francisco **State** CA **Zip** 94104

Project Location

County Riverside
City
Region
Cross Streets
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Biological Resources; Archaeologic-Historic; Geologic/Seismic; Soil Erosion/Compaction/Grading; Other Issues; Toxic/Hazardous; Water Quality; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Traffic/Circulation

Reviewing Agencies Resources Agency; Department of Conservation; California Energy Commission; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 6; Native American Heritage Commission; State Lands Commission; California Highway Patrol; Caltrans, District 8; Regional Water Quality Control Board, Region 8

Date Received 12/13/2010 **Start of Review** 12/13/2010 **End of Review** 01/11/2011

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

SL

County: Riverside

SCH# 2010121035

Resources Agency

- [ ] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Mike Sotelo
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [ ] **Dept. of Conservation**
  Rebecca Salazar
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Cal Fire**
  Allen Robertson
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Wayne Donaldson
- [ ] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou
- [ ] _____
  Conservancy

Fish and Game

- [ ] **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Game Region 1**
  Donald Koch
- [ ] **Fish & Game Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Game Region 2**
  Jeff Drongesen
- [ ] **Fish & Game Region 3**
  Charles Armor
- [ ] **Fish & Game Region 4**
  Julie Vance
- [ ] **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- [x] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Brad Henderson
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [ ] **Dept. of Public Health**
  Bridgette Binning
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Linda Fiack
- [ ] **Cal EMA (Emergency Management Agency)**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [ ] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Leo Wong
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Marina Brand
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [ ] **California Highway Patrol**
  Scott Loetscher
  Office of Special Projects
- [ ] **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Bruce de Terra
- [ ] **Caltrans, District 4**
  Lisa Carboni
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Elmer Alvarez
- [x] **Caltrans, District 8**
  Dan Kopulsky
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Chris Herre

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
  - [ ] Transportation Projects
    Douglas Ito
  - [ ] Industrial Projects
    Mike Tollstrup
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [x] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

Last Updated on 03/24/10

A-70

Julie Holst

From: Janna Scott on behalf of Lakeview Substation
Sent: Friday, January 28, 2011 3:20 PM
To: Julie Holst
Subject: FW: Lakeview Substation Project

Janna A. Scott, J.D.
ESA | Energy Group
225 Bush Street, Suite 1700
San Francisco, CA 94104
415.896-5900 | 415.896-0332 fax
jscott@esassoc.com

From: Joseph Shaer [mailto:joseph_shaer@dot.ca.gov]
Sent: Wednesday, December 15, 2010 10:15 AM
To: Lakeview Substation
Cc: Dan Kopulsky
Subject: Lakeview Substation Project

Dear Mr. Rosauer,

We have recieved the NOP for the Lakeview Substation Project (SCH# 2010121032). Unfortunately, we are unable to review this document for the following reasons:

1) Map of the project location is not legible

2) APN's are not listed

We are therefore unable to determine precise project locations and any impacts it may have to the State Highway Facilities. If possible, please submit a map that is legible and/or a list of the APN's for this project. Delivery via email will suffice.

Please feel free contacting me if you have any questions.

Thank you,

Joseph Shaer
Transportation Planner
464 W. Fourth Street, 6th Floor, MS 725
San Bernardino, CA 92401-1400
Telephone (909) 383-6908
Fax (909) 383-5936
Joseph_Shaer@dot.ca.gov

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

December 17, 2010

Mr. Michael Rosauer, Environmental Planner
California Public Utilities Commission
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

Re: SCH#2010121035; CEQA Notice of Preparation (NOP) **For Permit to Construct Electrical Facilities with Voltages between 12,V and 66kV: Lakeview Substation Project (A.10-09-016);** located in an unincorporated area including the communities of Lakeview and Nuevo; western Riverside County, California

Dear Mr. Rosauer:

The Native American Heritage Commission (NAHC) is the state 'trustee agency' pursuant to Public Resources Code §21070 for the protection and preservation of California's Native American Cultural Resources. (Also see *Environmental Protection Information Center v. Johnson (1985) 170 Cal App. 3rd 604).* The California Environmental Quality Act (CEQA - CA Public Resources Code §21000-21177, amendment effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c)(f) CEQA guidelines). Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance. The lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. State law also addresses Native American Religious Expression in Public Resources Code §5097.9.

The Native American Heritage Commission did perform a Sacred Lands File (SLF) search in the NAHC SLF Inventory, established by the Legislature pursuant to Public Resources Code §5097.94(a) and Native American Cultural Resources **were NOT identified** within one-half mile of several of the Area of Potential Effect (APE). However, there are Native American cultural resources in close proximity to the APE. Also, it is important to understand that the absence of archaeological, Native American cultural resources in an area does not indicate that they are not present, or will be present once ground-breaking activity begins. The NAHC recommends early consultation with Native American tribes in your area as the best way to avoid unanticipated discoveries once a project is underway and to learn of any sensitive cultural areas. Enclosed are the names of the culturally affiliated tribes and interested Native American individuals that the NAHC recommends as 'consulting parties,' for this purpose, that may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). A Native American Tribe or Tribal Elder may be the only source of information about a cultural resource.. Also, the NAHC recommends that a Native American Monitor or Native American culturally knowledgeable person be employed whenever a professional

archaeologist is employed during the 'Initial Study' and in other phases of the environmental planning processes.

Furthermore the NAHC recommends that you contact the California Historic Resources Information System (CHRIS) of the Office of Historic Preservation (OHP), for information on recorded archaeological data. This information is available at the OHP Office in Sacramento (916) 445-7000.

Consultation with tribes and interested Native American tribes and interested Native American individuals, as consulting parties, on the attached NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C. 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 [f]*et seq.),* 36 CFR Part 800.3, .4 & .5, the President's Council on Environmental Quality (CSQ; 42 U.S.C. 4371 *et seq.*) and NAGPRA (25 U.S.C. 3001-3013), as appropriate. The 1992 *Secretary of the Interior's Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including *cultural landscapes.* Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e).

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'. Discussion of these should be included in your environmental documents, as appropriate.

The authority for the SLF record search of the NAHC Sacred Lands Inventory, established by the California Legislature, is California Public Resources Code §5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code §6254.10). The results of the SLF search are confidential. However, Native Americans on the attached contact list are not prohibited from and may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance' may also be protected the under Section 304 of the NHPA or at the Secretary of the Interior' discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C, 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibly threatened by proposed project activity.

CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens. Although tribal consultation under the California Environmental Quality Act (CEQA; CA Public Resources Code Section 21000 – 21177) is 'advisory' rather than mandated, the NAHC does request 'lead agencies' to work with tribes and interested Native American individuals as 'consulting parties,' on the list provided by the NAHC in order that cultural resources will be protected. However, the 2006 Senate Bill 1059 the state enabling legislation to the Federal Energy Policy Act of 2005, does mandate tribal consultation for the 'electric transmission

2.

corridors. This is codified in the California Public Resources Code, Chapter 4.3, and §25330 to Division 15, requires consultation with California Native American tribes, and identifies both federally recognized and non-federally recognized on a list maintained by the NAHC

Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. . Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton
Program Analyst

Attachment: List of Culturally Affiliated Native American Contacts

Cc: State Clearinghouse

Native American Contacts
Riverside County
December 17, 2010

Pala Band of Mission Indians
Tribal Historic Preservation Office
35008 PalaTemecula Rd, PMB Luiseno
Pala , CA 92059 Cupeno
sgaughen@palatribe.com
(760) 891-3500
(760) 742-1411 Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 609 Cahuilla
Hemet , CA 92546
srtribaloffice@aol.com
(951) 658-5311
(951) 658-6733 Fax

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resource Center
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 770-8100
pmacarro@pechanga-nsn.
gov
(951) 506-9491 Fax

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog.
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
mcontreras@morongo-nsn.
gov
(951) 922-0105 Fax

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula , CA 92593
tbrown@pechanga-nsn.gov
(951) 770-6100
(951) 695-1778 Fax

Soboba Band of Mission Indians
Scott Cozaet, Chairperson
P.O. Box 487 Luiseno
San Jacinto , CA 92581
dhill@soboba-nsn.gov
(951) 654-2765
(951) 654-4198 - Fax

Willie J. Pink
48310 Pechanga Road Luiseno
Temecula , CA 92592
wjpink@hotmail.com
(909) 936-1216
Prefers e-mail contact

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and fed eral NAGPRA. And 36 CFR Part 800.

This list is only applicable for contacting local Native Americans for consultation purposes with regard to cultural resources impact by the proposed SCH#2010121036; CEQA Notice of Preparation; draft Environmental Impact Report (DEIR) for the Permit to Construct Electrical Facilities with Voltages between 12kV and 66kV; Lakeview Sustation Project (A.10-09-016); located near the communities of Lakeview and Nuevo in western

Native American Contacts
Riverside County
December 17, 2010

Cahuilla Band of Indians
Luther Salgado, Sr., , Chairperson
PO Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
915-763-5549

Anna Hoover, Cultural Analyst
Pechanga Cultural Resources Department
P.O. Box 2183 Luiseño
Temecula , CA 92593
ahoover@pechanga-nsn.gov
951-770-8100
(951) 694-0446 - FAX

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning , CA 92220 Cahuilla
siva@dishmail.com
(951) 849-4676

Joseph Ontiveros, Cultural Resource Department
SOBOBA BAND OF LUISENO INDIANS
P.O. BOX 487 Luiseno
San Jacinto , CA 92581
jontiveros@soboba-msn.gov
(951) 663-5279
(951) 654-5544, ext 4137

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and fed eral NAGPRA. And 36 CFR Part 800.

This list is only applicable for contacting local Native Americans for consultation purposes with regard to cultural resources impact by the proposed SCH#2010121036; CEQA Notice of Preparation; draft Environmental Impact Report (DEIR) for the Permit to Construct Electrical Faicilties with Voltages between 12kV and 66kV; Lakeview Sustation Project (A.10-09-016); located near the communities of Lakeview and Nuevo in western

December 29, 2010

Mr. Michael Rosauer
Lakeview Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

RE: LAKEVIEW SUBSTATION PROJECT

This letter concerns the Lakeview Substation Project currently being proposed by Southern California Edison. The project includes the installation of a 115kv transmission line between 10th and 11th Streets in the Lakeview area.

We are not opposed to the proposed substation but are concerned about the115kv transmission line and are in opposition to its installation. Our family trust owns approximately 100 acres between 10th and 11th Streets and the proposed transmission line divides our property in half. Our family has farmed this property for over 60 years and sees our land ideal for future real estate development. A transmission line thru our property would vastly reduce its value.

Our opposition to the installation of this transmission line with 9 to 10 wooden poles is based on the negative visual/aesthetic impact on our property and the surrounding environment plus the risk of adverse health effects of exposure to the Electric and Magnetic Fields.

We understand that it is technically possible to install 115kv transmission lines underground. If the proposed project must include a transmission line thru our property, then we recommend that it be installed underground. This underground installation would negate the visual/aesthetic environmental impact and reduce exposure to Electric and Magnetic Fields.

We see communities where overhead transmission lines that were installed decades ago are now being moved underground. Obviously this relocation underground is to reduce the visual/aesthetic impact on the surrounding environment. Why not do the right thing the first time and install this proposed transmission line underground?

Again we are opposed to this proposed transmission line and at the very least, if a transmission line must be installed bisecting our property, then its installation be underground.

Any correspondence regarding this matter should be sent to Ethel M. Ybarrola and Diana Spillane, 73 Ferndale Court, Redlands, CA 92374 and to Thomas F. Ybarrola, 1015 Alexandria Drive, San Diego, CA 92107. Any emails should be sent to Diana Spillane at dspillane@msn.com and to Thomas F. Ybarrola at tomybarrola@sbcglobal.net. Any telephone calls should be directed to Thomas F. Ybarrola, 619-573-0125 (cell) and 619-223-2595 (home).

Sincerely,

Thomas F. Ybarrola
Trustee of the Ybarrola Living Trust

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org
134991

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

January 12, 2011

Mr. Michael Rosauer
Lakeview Substation Project
c/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

Dear Mr. Rosauer:

Re: Notice of Preparation of an Environmental Impact Report
Lakeview Substation Project

This letter is written in response to the Notice of Preparation (NOP) of an Environmental Impact Report and Notice of an Informational Workshop and Scoping Meeting: Permit to construct electrical facilities with voltages between 12kV and 66kV: Lakeview Substation Project (A.10-09-016). The purpose of the proposed project is to construct a new 115/12 kV substation, install two new 115kV subtransmission source line segments to connect the substation to the existing Valley-Moval 115kV subtransmission line, construct two underground 12 kV distribution getaways, install telecommunication facilities at the proposed substation, and decommission two existing substations.

The Riverside County Flood Control and Water Conservation District (District) has reviewed the NOP and has the following comments:

This project is located within the limits of the District's Lakeview-Nuevo Area Drainage Plan for which drainage fees have been adopted; applicable fees should be paid by cashier's check or money order only to the Flood Control District prior to issuance of grading permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit.

District facilities are located within the proposed project area and may be impacted. Any project that involves District right-of-way, easements or facilities should be coordinated with us. To obtain further information on encroachment permits or existing facilities, contact Ed Lotz of the District's Encroachment Permit Section at 951.955.1266.

The District is signatory to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). If it is anticipated that the applicant will request that the District own, operate and maintain the above referenced facilities, the applicant will need to demonstrate that all construction related activities within the District right-of-way or easement are consistent with the MSHCP. To accomplish this, the CEQA document should include a MSHCP consistency report with all of its supporting documents and provide adequate mitigation in accordance with all applicable MSHCP requirements. The MSHCP consistency report should address, at a minimum, Sections 3.2, 3.2.1, 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.3 and Appendix C of the MSHCP.

General Information

This project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. Clearance for grading, recordation or other final approval may not be given until the project has been granted a permit or is shown to be exempt.

If this project involves a Federal Emergency Management Agency (FEMA) mapped floodplain, the applicant is required to provide all studies, calculations, plans and other information required to meet FEMA requirements, and should obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation or other final approval of the project, and a Letter of Map Revision (LOMR) prior to occupancy.

If a natural watercourse or mapped floodplain is impacted by this project, the applicant is required to obtain a Section 1602 Agreement from the California Department of Fish and Game and a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, or written correspondence from these agencies indicating the project is exempt from these requirements. A Clean Water Act Section 401 Water Quality Certification may be required from the local California Regional Water Quality Control Board prior to issuance of the Corps 404 permit.

Very truly yours,

Edwin Quinonez

EDWIN QUINONEZ
Senior Civil Engineer

c: Riverside County Planning Department
Attn: Kathleen Browne

AJK:EQ:bjp

RIVERSIDE COUNTY FIRE DEPARTMENT

IN COOPERATION WITH
THE CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

John R. Hawkins ~ Fire Chief
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January 25, 2011

Mr. Michael Rosauer
Lakeview Substation Project
C/o Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, California 94104

Re: Lakeview Substation Project, Review & Comments for a NOP of an EIR

Mr. Rosauer,

Per a review of the Proponent's Environmental Assessment, Lakeview Substation Project, as enclosed with a NOP dated December 9, 2010; the following comments address compliance concerns of the RCFD:

- Adherence to all applicable laws, ordinances and resolutions (LORS) during construction and operation of the proposed substation and all supporting improvements as described and including two new sub transmission source line segments; two new underground d distribution getaways; telecommunication cable; upgrades to the telecommunications equipment; decommissioning of two existing substations;
- Adherence to any agreements reached as part of safety mitigation for all project improvements as identified;
- Adherence to all applicable safety-related mitigation measures of the forthcoming EIR.

The California Fire Code outlines fire protection standards for the safety, health and welfare of the public. These standards will be enforced by the Fire Chief.

If I can be of further assistance, please contact me at 951.940.6308 or ben.johnson@fire.ca.gov .

Thank you,

Ben R. Johnson, AICP
Fire Facilities Planner
Strategic Planning Bureau

APPENDIX B
SCE's EMF Field Management Plan

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Appendix F

FIELD MANAGEMENT PLAN

FOR LAKEVIEW SUBSTATION PROJECT

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List of Terms

CDHS	California Department of Health Services
C/L	center line
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
ELF	extremely low frequency
EMF	electric and magnetic fields
FMP	field management plan
GO	General Order
IARC	International Agency for Research on Cancer
kV	kilovolt
LWS	light weight steel
mG	milliGauss
MVA	megavolt-ampere
MW	megawatt
NIEHS	National Institute of Environmental Health Sciences
NRPB	National Radiation Protection Board
PEA	Proponents Environmental Assessment
RAPID	Research and Public Information Dissemination
ROW	right of way
SCE	Southern California Edison
T/L	transmission line
TSP	tubular steel pole
VAR	Volt ampere reactive
WHO	World Health Organization

I. Executive Summary

This document is Southern California Edison Company's (SCE) Field Management Plan (FMP) for the proposed Lakeview Substation Project (Proposed Project). SCE proposes to construct a new 115/12 kilovolt (kV) substation called Lakeview Substation (Proposed Substation). The Proposed Project includes the following components:

- A new 115/12 kV distribution substation on an approximately five-acre site;
- Construction of two new 115 kV subtransmission line segments to serve the Proposed Substation (more specifically, the Valley-Moval 115 kV subtransmission line would be looped into the Proposed Substation with two new single-circuit 115 kV subtransmission line segments); and
- Construction of two new underground 12 kV distribution getaways.

SCE provides this FMP in order to inform the public, the California Public Utilities Commission (CPUC), and other interested parties of its evaluation of "no-cost and low-cost" magnetic field reduction design options for this project, and SCE's proposed plan to apply these design options to this project. This FMP has been prepared in accordance with CPUC Decision No. 93-11-013 and Decision No. 06-01-042 relating to extremely low frequency (ELF)[6] electric and magnetic fields (EMF). This FMP also provides background on the current status of scientific research related to possible health effects of EMF, and a description of the CPUC's EMF policy.

The "no-cost and low-cost" magnetic field reduction design options that are incorporated into the design of the Proposed Project are as follows:

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[6] The "extremely low" frequency is defined as the frequency range from 3 Hz to 3,000 Hz.

- Utilizing subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria;
- Utilizing subtransmission line construction that reduces the space between conductors compared with other designs;
- Placing major substation electrical equipment (such as transformers, switchracks, buses, and underground duct banks) away from the substation property lines; and
- Configuring the transfer and operating buses with the transfer bus closest to the nearest property line.

The "no-cost and low-cost" magnetic field reduction design options that SCE considered for the Proposed Project are summarized in Table 1 on page 6.

SCE's plan for applying the above "no-cost and low-cost" magnetic field reduction design options for the Proposed Project is consistent with CPUC's EMF policy and with the direction of leading national and international health agencies. Furthermore, the plan complies with SCE's EMF Design Guidelines[7] and with applicable national and state safety standards for new electrical facilities.

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7 EMF Design Guidelines, July 2006.

Table 1. Summary of "No-cost and Low-cost" Magnetic Field Reduction Design Options						
Area No.	**Location**[8]	**Adjacent Land Use**[9]	**MF Reduction Design Options Considered**	**Estimated Cost to Adopt**	**Design Option(s) Adopted? (Yes/No)**	**Reason(s) if not adopted**
Lakeview Substation	Located at the southwest corner of 10th St. and Reservoir Ave, in the community of Lakeview.	5	• Placing major substation electrical equipment (such as transformers, switchracks, buses, and underground duct banks) away from the substation property lines • Configuring the transfer and operating buses with the transfer bus closest to the nearest property line	• No-Cost • No-Cost	• Yes • Yes	
115 kV Source sub-transmission line Segment 1	Northwest of Lakeview Substation	5	• Utilizing subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria • Utilizing subtransmission line construction that reduces the space between conductors compared with other designs	• No-Cost[10] • No-Cost	• Yes • Yes	

[8] This column shows the major cross streets, existing subtransmission lines, or substation name as reference points.

[9] Land usage codes are as follows: 1) schools, licensed day-care facilities, and hospitals, 2) residential, 3) commercial/industrial, 4) recreational, 5) agricultural, and 6) undeveloped land.

[10] Included in the preliminary design.

Table 1. Summary of "No-cost and Low-cost" Magnetic Field Reduction Design Options						
Area No.	**Location**[8]	**Adjacent Land Use**[9]	**MF Reduction Design Options Considered**	**Estimated Cost to Adopt**	**Design Option(s) Adopted? (Yes/No)**	**Reason(s) if not adopted**
115 kV Source sub-transmission line Segment 2	Southwest of Lakeview Substation	5	• Utilizing subtransmission structure heights that meet or exceed SCE's preferred EMF design criteria • Utilizing subtransmission line construction that reduces the space between conductors compared with other designs	• No-Cost[11] • No-Cost	• Yes • Yes	

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[11] *Id.*

II. BACKGROUND REGARDING EMF AND PUBLIC HEALTH RESEARCH

There are many sources of power frequency[12] electric and magnetic fields, including internal household and building wiring, electrical appliances, and electric power transmission and distribution lines. There have been numerous scientific studies about the potential health effects of EMF. After many years of research, the scientific community has been unable to determine if exposures to EMF cause health hazards. State and federal public health regulatory agencies have determined that setting numeric exposure limits is not appropriate.[13]

Many of the questions about possible connections between EMF exposures and specific diseases have been successfully resolved due to an aggressive international research program. However, potentially important public health questions remain about whether there is a link between EMF exposures and certain diseases, including childhood leukemia and a variety of adult diseases (e.g., adult cancers and miscarriages). As a result, some health authorities have identified magnetic field exposures as a possible human carcinogen. As summarized in greater detail below, these conclusions are consistent with the following published reports: the National Institute of Environmental Health Sciences (NIEHS) 1999,[14] the National Radiation Protection Board (NRPB) 2001,[15] the International Commission on non-Ionizing Radiation Protection

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12 In the United States, it is 60 Hertz (Hz).

13 D.06-01-042, p. 6, n. 10.

14 National Institute of Environmental Health Sciences' Report on Health Effects from Exposures to Power-Line frequency Electric and Magnetic Fields, NIH Publication No. 99-4493, June 1999.

15 National Radiological Protection Board, Electromagnetic Fields and the Risk of Cancer, Report of an Advisory Group on Non-ionizing Radiation, Chilton, U.K. 2001.

(ICNIRP) 2001, the California Department of Health Services (CDHS) 2002,[16] the International Agency for Research on Cancer (IARC) 2002,[17] and the World Health Organization (2007).

The federal government conducted EMF research as a part of a $45-million research program managed by the NIEHS. This program, known as the EMF RAPID (Research and Public Information Dissemination), submitted its final report to the U.S. Congress on June 15, 1999. The report concluded:

> "The scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak."[18]
> …
> "The NIEHS concludes that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard."[19]
> …
> "The NIEHS suggests that the level and strength of evidence supporting ELF-EMF exposure as a human health hazard are insufficient to warrant aggressive regulatory actions; thus, we do not recommend actions such as stringent standards on electric appliances and a national program to bury all transmission and distribution lines. Instead, the evidence suggests passive measures such as a continued emphasis on educating both the public and the regulated community on means aimed at reducing exposures. NIEHS suggests that the power industry continue its current practice of siting power lines to reduce exposures and continue to explore ways to reduce the creation of magnetic fields around transmission and distribution lines without creating new hazards."[20]

In 2001, Britain's NRPB arrived at a similar conclusion:

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16 California Department of Health Services, An Evaluation of the Possible Risks from Electric and Magnetic Fields from Power Lines, Internal Wiring, Electrical Occupations, and Appliances, June 2002.

17 World Health Organization / International Agency for Research on Cancer, IARC Monographs on the evaluation of carcinogenic risks to humans (2002), Non-ionizing radiation, Part 1: Static and extremely low-frequency (ELF) electric and magnetic fields, IARCPress, Lyon, France: International Agency for Research on Cancer, Monograph, vol. 80, p. 338, 2002.

18 National Institute of Environmental Health Sciences, NIEHS Report on Health Effects from Exposures to Power-Frequency Electric and Magnetic Fields, p. ii, NIH Publication No. 99-4493, 1999.

19 *Id.*, p. iii.

20 *Id.*, p. 37-38.

"After a wide-ranging and thorough review of scientific research, an independent Advisory Group to the Board of NRPB has concluded that the power frequency electromagnetic fields that exist in the vast majority of homes are not a cause of cancer in general. However, some epidemiological studies do indicate a possible small risk of childhood leukemia associated with exposures to unusually high levels of power frequency magnetic fields."[21]

In 2002, three scientists for CDHS concluded:

"To one degree or another, all three of the [CDHS] scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's disease, and miscarriage.

They [CDHS] strongly believe that EMFs do not increase the risk of birth defects, or low birth weight.

They [CDHS] strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure.

To one degree or another they [CDHS] are inclined to believe that EMFs do not cause an increased risk of breast cancer, heart disease, Alzheimer's disease, depression, or symptoms attributed by some to a sensitivity to EMFs. However, all three scientists had judgments that were "close to the dividing line between believing and not believing" that EMFs cause some degree of increased risk of suicide, or

For adult leukemia, two of the scientists are 'close to the dividing line between believing or not believing' and one was 'prone to believe' that EMFs cause some degree of increased risk."[22]

Also in 2002, the World Health Organization's (WHO) IARC concluded:

"ELF magnetic fields are possibly carcinogenic to humans"[23], based on consistent statistical associations of high-level residential magnetic fields with a doubling of risk of childhood leukemia...Children who are exposed to residential ELF magnetic fields less than 0.4 microTesla (4.0 milliGauss) have no increased risk for leukemia…. In contrast, "no consistent relationship has been seen in studies

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21 NRPB, NRPB Advisory Group on Non-ionizing Radiation Power Frequency Electromagnetic Fields and the Risk of Cancer, NRPB Press Release, May 2001.

22 CDHS, An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations and Appliances, p. 3, 2002.

23 IARC, Monographs, Part I, Vol. 80, p. 338.

of childhood brain tumors or cancers at other sites and residential ELF electric and magnetic fields."[24]

In June of 2007, the WHO issued a report on their multi-year investigation of EMF and the possible health effects. After reviewing scientific data from numerous EMF and human health studies, they concluded:

> "Scientific evidence suggesting that everyday, chronic low-intensity (above 0.3-0.4 μT [3-4 mG]) power-frequency magnetic field exposure poses a health risk is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukaemia."[25]
>
> "In addition, virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status. Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern."[26]
>
> "A number of other diseases have been investigated for possible association with ELF magnetic field exposure. These include cancers in both children and adults, depression, suicide, reproductive dysfunction, developmental disorders, immunological modifications and neurological disease. The scientific evidence supporting a linkage between ELF magnetic fields and any of these diseases is much weaker than for childhood leukemia and in some cases (for example, for cardiovascular disease or breast cancer) the evidence is sufficient to give confidence that magnetic fields do not cause the disease"[27]
>
> "Furthermore, given both the weakness of the evidence for a link between exposure to ELF magnetic fields and childhood leukemia, and the limited impact on public health if there is a link, the benefits of exposure reduction on health are unclear. Thus the costs of precautionary measures should be very low."[28]

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24 *Id.*, p. 332-334.
25 WHO, Environmental Health Criteria 238, Extremely Low Frequency Fields, p. 11-13, 2007.
26 *Id.*, p. 12.
27 *Id.*
28 *Id.*, p. 13.

III. APPLICATION OF THE CPUC'S "NO-COST AND LOW-COST" EMF POLICY TO THIS PROJECT

Recognizing the scientific uncertainty over the connection between EMF exposures and health effects, the CPUC adopted a policy that addresses public concern over EMF with a combination of education, information, and precaution-based approaches. Specifically, Decision No. (D.) 93-11-013 established a precautionary based "no-cost and low-cost" EMF policy for California's regulated electric utilities based on recognition that scientific research had not demonstrated that exposures to EMF cause health hazards and that it was inappropriate to set numeric standards that would limit exposure.

In 2006, the CPUC completed its review and update of its EMF Policy in D.06-01-042. This decision reaffirmed the finding that state and federal public health regulatory agencies have not established a direct link between exposure to EMF and human health effects,[29] and the policy direction that (1) use of numeric exposure limits was not appropriate in setting utility design guidelines to address EMF,[30] and (2) existing "no-cost and low-cost" precautionary-based EMF policy should be continued for proposed electrical facilities. The decision also reaffirmed that EMF concerns brought up during Certificate of Public Convenience and Necessity (CPCN) and

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29 D.06-01-042, Conclusion of Law No. 5, mimeo. p. 19 ("As discussed in the rulemaking, a direct link between exposure to EMF and human health effects has yet to be proven despite numerous studies including a study ordered by this Commission and conducted by DHS.").

30 D.06-01-042, mimeo. p. 17-18 ("Furthermore, we do not request that utilities include non-routine mitigation measures, or other mitigation measures that are based on numeric values of EMF exposure, in revised design guidelines or apply mitigation measures to reconfigurations or relocations of less than 2,000 feet, the distance under which exemptions apply under GO 131-D. Non-routine mitigation measures should only be considered under unique circumstances.").

Permit to Construct (PTC) proceedings for electric and transmission and substation facilities should be limited to the utility's compliance with the CPUC's "no-cost and low-cost" policies.[31]

The decision directed regulated utilities to hold a workshop to develop standard approaches for EMF Design Guidelines and such a workshop was held on February 21, 2006. Consistent design guidelines have been developed that describe the routine magnetic field reduction measures that regulated California electric utilities consider for new and upgraded transmission line and transmission substation projects. SCE filed its revised EMF Design Guidelines with the CPUC on July 26, 2006.

"No-cost and low-cost" measures to reduce magnetic fields would be implemented for this project in accordance with SCE's EMF Design Guidelines. In summary, the process of evaluating "no-cost and low-cost" magnetic field reduction measures and prioritizing within and between land usage classes considers the following:

1. SCE's priority in the design of any electrical facility is public and employee safety. Without exception, design and construction of an electric power system must comply with all applicable federal, state, and local regulations, applicable safety codes, and each electric utility's construction standards. Furthermore, transmission and subtransmission lines and substations must be constructed so that they can operate reliably at their design capacity. Their design must be compatible with other facilities in the area and the cost to operate and maintain the facilities must be reasonable.

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[31] D.06-01-042, Conclusion of Law No. 2 ("EMF concerns in future CPCN and PTC proceedings for electric and transmission and substation facilities should be limited to the utility's compliance with the Commission's low-cost/no-cost policies.").

2. As a supplement to Step 1, SCE follows the CPUC's direction to undertake "no-cost and low-cost" magnetic field reduction measures for new and upgraded electrical facilities. Any proposed "no-cost and low-cost" magnetic field measures, must, however, meet the requirements described in Step 1 above. The CPUC defines "no-cost and low-cost" measures as follows. Low-cost measures, in aggregate, should (a) Cost in the range of 4 percent of the total project cost; and (b) result in magnetic field reductions of "15% or greater at the utility R-O-W [right-of-way]…"[32] The CPUC Decision stated:

> "We direct the utilities to use 4 percent as a benchmark in developing their EMF mitigation guidelines. We will not establish 4 percent as an absolute cap at this time because we do not want to arbitrarily eliminate a potential measure that might be available but costs more than the 4 percent figure. Conversely, the utilities are encouraged to use effective measures that cost less than 4 percent."[33]

3. The CPUC provided further policy direction in D.06-01-042, stating "[a]lthough equal mitigation for an entire class is a desirable goal, we will not limit the spending of EMF mitigation to zero on the basis that not all class members can benefit."[34] While D.06-01-042 directs the utilities to favor schools, day-care facilities and hospitals over residential areas when applying low-cost magnetic field reduction measures, prioritization within a class can be difficult on a project case-by-case basis because schools, day-care facilities, and hospitals are often integrated into residential areas, and many licensed day-care facilities are housed in private homes, and can be easily moved from one location to another. Therefore, it may be practical for public schools, licensed day-care centers, hospitals, and residential land uses to be grouped together to receive highest prioritization for low-cost magnetic field reduction measures. Commercial and industrial areas may be grouped as a second priority group, followed by

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[32] D.06-01-042, p. 10.
[33] D.93-11-013, § 3.3.2, p.10.

recreational and agricultural areas as the third group. Low-cost magnetic field reduction measures will not be considered for undeveloped land, such as open space, state and national parks, and Bureau of Land Management and U.S. Forest Service lands. When spending for low-cost measures would otherwise disallow equitable magnetic field reduction for all areas within a single land-use class, prioritization can be achieved by considering location and/or density of permanently occupied structures on lands adjacent to the projects, as appropriate.

This FMP contains descriptions of various magnetic field models and the calculated results of magnetic field levels based on those models. These calculated results are provided only for purposes of identifying the relative differences in magnetic field levels among various transmission or subtransmission line design alternatives under a specific set of modeling assumptions and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location if and when the project is constructed. This is because magnetic field levels depend upon a variety of variables, including load growth, customer electricity usage, and other factors beyond SCE's control. The CPUC affirmed this in D.06-01-042:

> "Our [CPUC] review of the modeling methodology provided in the utility [EMF] design guidelines indicates that it accomplishes its purpose, which is to measure the relative differences between alternative mitigation measures. Thus, the modeling indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields."[35]

Continued from the previous page

[34] D.06-01-042, p. 10.

[35] D.06-01-042, p. 11.

IV. PROJECT DESCRIPTION

SCE proposes to construct a new 115/12 kV, unattended, automated 56 MVA low-profile substation (Lakeview Substation) on a 5.4-acre parcel in unincorporated Riverside County, at the southwest corner of 10th St. and Reservoir Avenue, in the community of Lakeview. (Figure 1) The proposed Lakeview Substation dimensions would be approximately 330 feet by 345 feet, and property limits would be approximately 452 feet by 525 feet. The substation would encompass approximately 2.7 acres of a 5.4-acre parcel, and the power capacity would be expandable to 112 MVA as necessary. The Proposed Project also includes the following components:

- Installation of two new 115 kV subtransmission source line segments to connect the proposed Lakeview Substation to the existing Valley-Moval 115 kV subtransmission line;
    - One segment would be approximately 1.8 miles in length, and would form the new Valley-Lakeview 115 kV subtransmission line; and
    - One segment would be approximately 1.5 miles in length, and would form the new Lakeview-Moval 115 kV subtransmission line.
        - Approximately 73 new wood poles and 17 new Tubular Steel Poles (TSPs) would be installed to accommodate the two new 115 kV subtransmission source line segments; and
- Construction of two new underground 12 kV distribution getaways.

Subtransmission Source Line Description

The new 115 kV subtransmission source line routes consist of two independent single-circuit source line segments that would connect to and divide the existing Valley-Moval 115 kV

transmission line, supplying power to the Proposed Substation. The line segments are described below.

- **Segment 1 - The Lakeview-Moval 115 kV Subtransmission Line**

Segment One would connect to the existing Valley-Moval 115 kV subtransmission line south of the Colorado River Aqueduct. The new 115 kV subtransmission facilities would then extend east, paralleling the Colorado River Aqueduct until it spans the San Jacinto River and intersects and follows the future planned 10th Street. The facilities would then extend southeast along 10th Street until entering the substation property near the corner of 10th Street and Reservoir Avenue. (*See* Figures 1 and 2.) Subtransmission Source Line Segment One is approximately 1.5 miles long.

- **Segment 2 - The Valley-Lakeview 115 kV Subtransmission Line**

Segment Two would connect to the existing Valley-Moval 115 kV subtransmission line south of Segment One. The new 115 kV subtransmission facilities would then extend southeast, spanning the San Jacinto River, before reaching 11th Street. The new facilities would then follow 11th Street to the intersection with Reservoir Avenue, extending north before entering the proposed substation property. (*See* Figures 1 and 3.) Subtransmission Source Line Segment Two is approximately 1.8 miles long.

Figure 1. Project Area and Proposed 115 kV Subtransmission Line Routes and Substation Location

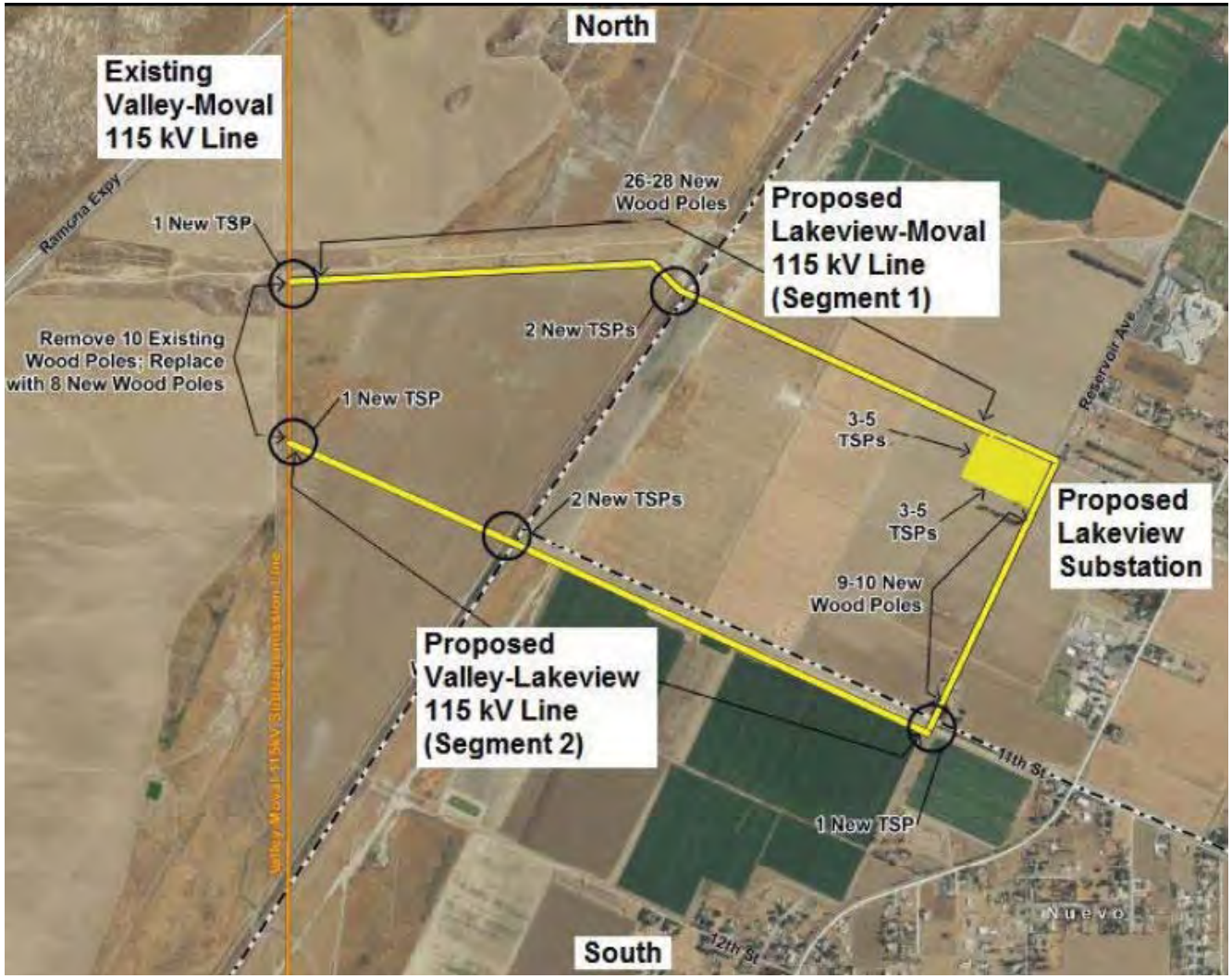


Figure 2. Proposed Lakeview-Moval 115 kV

Single-Circuit Structure Design - Segment 1

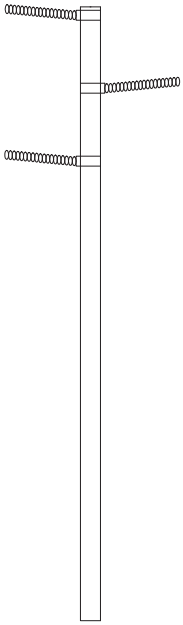
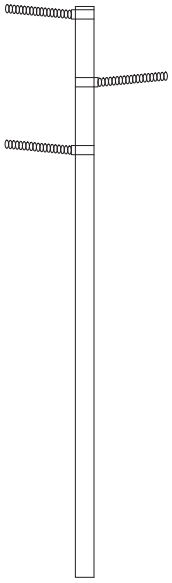


Figure 3. Proposed Valley-Lakeview 115 kV

Single-Circuit Structure Design - Segment 2



V. EVALUATION OF "NO-COST AND LOW-COST" MAGNETIC FIELD REDUCTION DESIGN OPTIONS

The following magnetic field models and the calculated results of magnetic field levels are intended only for purposes of identifying the relative differences in magnetic field levels among various subtransmission line and subtransmission line design alternatives under a specific set of modeling assumptions[36] and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location when the Proposed Project is constructed.

For the purpose of evaluating "no-cost and low-cost" magnetic field reduction design options, the Proposed Project is divided into three parts:

- Part 1: Proposed Lakeview 115 kV Subtransmission Lines
- Part 2: Lakeview 115/12 kV Substation
- Part 3: Project Alternatives

Part 1: Proposed Lakeview 115 kV Subtransmission Lines

For the purpose of field reduction evaluation, the proposed subtransmission lines will be divided into two segments as follows:

- **Segment 1 - The Proposed Lakeview-Moval 115 kV Line**

The proposed design used for Segment 1 is shown in Figure 2. The proposed 115 kV subtransmission line segment will be constructed on single-circuit structures. Based on preliminary designs, typical wood poles would be at least 70 feet in length (61 feet above ground), and typical tubular steel poles (TSP) would be 70 feet (61 feet above ground) to 85 feet

in height. The structures would be located in utility ROW. For EMF analysis, calculated field levels were evaluated at 10 feet from the center line (C/L) of the structure for a single circuit. Currently, there are no schools or residences adjacent to Segment 1 of the Proposed 115 kV subtransmission line route. The proposed route for Segment 1 runs through agricultural land.

No-Cost Field Reduction Measures: The proposed design for Segment 1 includes the following no-cost field reduction measures:

1. Utilizing structure heights that meet or exceed SCE's EMF preferred design criteria.
2. Utilizing subtransmission line construction that reduces the space between conductors compared with other designs

Low-Cost Field Reduction Options: Because the proposed design incorporates the above no-cost field reduction measures including structure heights that meet or exceed SCE's EMF preferred design criteria, no further low-cost reduction measures such as utilizing taller structures were considered for this segment of the Proposed Project.

Magnetic Field Calculations: Figure 4 and Table 2 show the calculated magnetic field levels for the proposed design. These calculations were made using the typical proposed wood structure length of 70 feet (61 feet above ground).

Continued from the previous page

[36] *See* Appendix A for more detailed information about the calculation assumptions and loading conditions.

Figure 4. Calculated Magnetic Field Levels[37] for Segment 1 Proposed Lakeview-Moval 115 kV Subtransmission Line

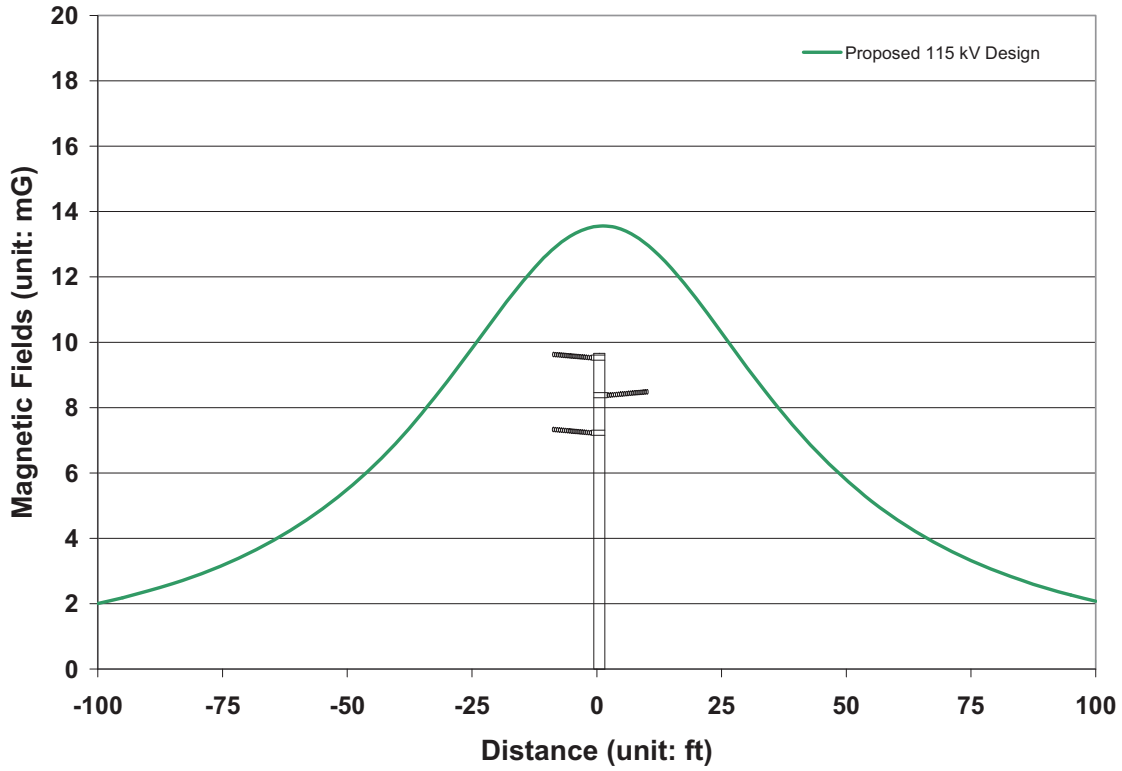


Table 2. Calculated Magnetic Field Levels[38] for Segment 1				
Design Options	10 Feet Left of C/L (mG)	% Reduction	10 Feet Right of C/L (mG)	% Reduction
Proposed Lakeview-Moval 115 kV Line Design	12.7	n/a	13.0	n/a

37 This table lists calculated magnetic field levels for design comparison only and is not meant to predict actual magnetic field levels.

38 *Id.*

Recommendations for Segment 1: *The proposed design includes no-cost field reduction measures. Because the proposed design already incorporates structures with heights meeting or exceeding SCE's preferred design criteria and construction that reduces the space between conductors compared with other designs, no further low-cost field reduction measures are recommended.*

- **Segment 2 - The Proposed Valley-Lakeview 115 kV Subtransmission Line**

The proposed design used for Segment 2 is shown in Figure 3. The proposed 115 kV subtransmission line will be constructed on single-circuit structures. Based on preliminary designs, typical wood poles would be at least 70 feet in length (61 feet above ground), and TSPs will typically be 70 feet (61 feet above ground) to 85 feet in height. The structures will be located in utility ROW. For EMF analysis, calculated field levels were evaluated at 10 feet from the center line of the structure for a single circuit. Currently, there are no schools or residences adjacent to Segment 2 of the proposed 115 kV subtransmission line route. The proposed route for Segment 2 runs through agricultural land.

No-Cost Field Reduction Measures: The proposed design for Segment 2 includes the following no-cost field reduction measures:

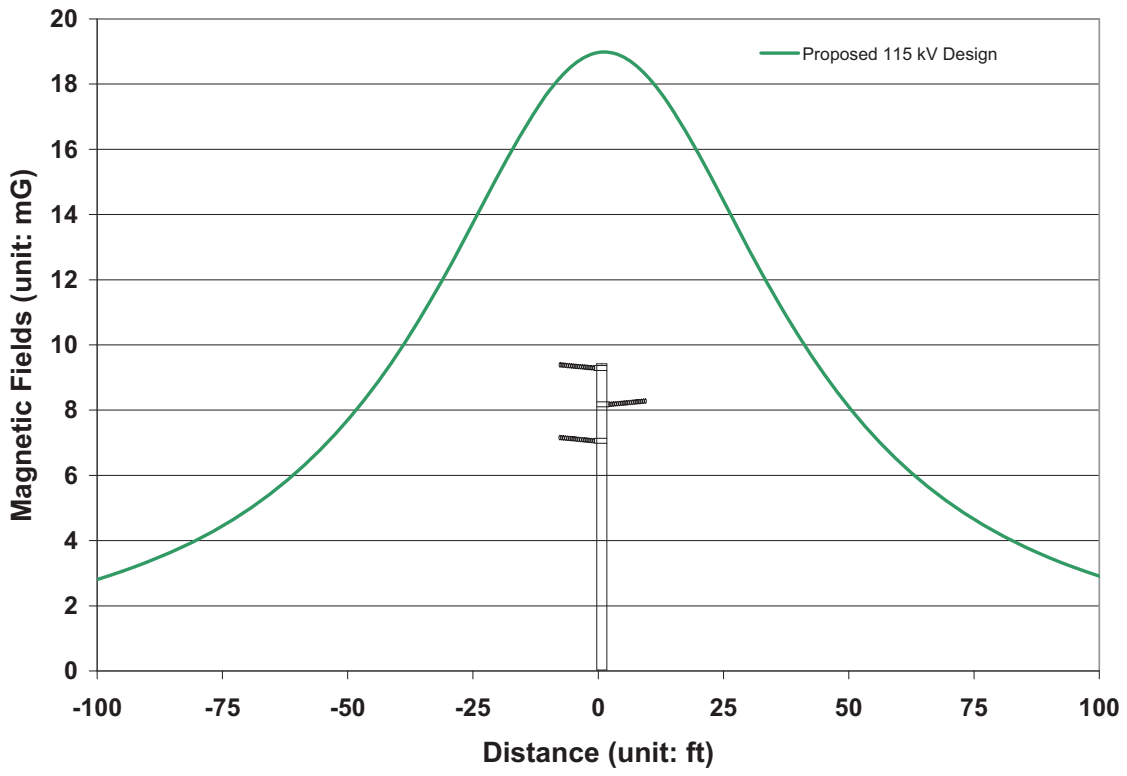
1. Utilizing structure heights that meet or exceed SCE's EMF preferred design criteria; and
2. Utilizing subtransmission line construction that reduces the space between conductors compared with other designs.

Low-Cost Field Reduction Options: Because the proposed design incorporates the above no-cost field reduction measures including structure heights that meet or exceed

SCE's EMF preferred design criteria, no further low-cost reduction measures such as utilizing taller structures were considered for this segment of the Proposed Project.

Magnetic Field Calculations: Figure 5 and Table 3 show the calculated magnetic field levels for proposed design. These calculations were made using the typical proposed wood structure length of 70 feet (61 feet above ground).

Figure 5. Calculated Magnetic Field Levels[39] for Segment 2 Proposed Valley-Lakeview 115 kV Subtransmission Line



[39] *Id.*

Table 3. Calculated Magnetic Field Levels[40] for Segment 2				
Design Options	10 Feet Left of C/L (mG)	% Reduction	10 Feet Right of C/L (mG)	% Reduction
Proposed Valley-Lakeview 115 kV Line Design	17.7	n/a	18.2	n/a

Recommendations for Segment 2: *The proposed design includes no-cost field reduction measures. Because the proposed design already incorporates structures with heights meeting or exceeding SCE's preferred design criteria and construction that reduces the space between conductors compared with other designs, no further low-cost field reduction measures are recommended.*

Part 2: Lakeview 115/12 kV Substation

Generally, magnetic field values along the substation perimeter are low compared to the substation interior because of the distance from the perimeter to the energized equipment. Normally, the highest magnetic field values around the perimeter of a substation result from overhead power lines and underground duct banks entering and leaving the substation, and are not caused by substation equipment. Therefore, the magnetic field reduction design options generally applicable to a substation project are as follows:

- Site selection for a new substation; and
- Setback of substation structures and major substation equipment (such as bus, transformers, and underground cable duct banks, etc.) from the perimeter.

The Substation Checklist, as shown in Table 4, is used for evaluating the no-cost and low-cost design options considered for the substation project, the design options adopted, and reasons that certain design options were not adopted if applicable.

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[40] *Id.*

Table 4. Substation Checklist for Examining No-cost and Low-cost Magnetic Field Reduction Design Options			
#	**No-Cost and Low-Cost Magnetic Field Reduction Design Options Evaluated for a Substation Project**	**Design Options Adopted? (Yes/No)**	**Reason(s) if not Adopted**
1	Are 115 kV rated transformer(s) 15 feet from the substation property line?	Yes	
2	Are 115 kV rated switch-racks, capacitor banks & bus 8 feet (or more) from the substation property line?	Yes	
3	Are 115kV rated transfer & operating buses configured with the transfer bus facing the nearest property line?	Yes	
4	Are underground cable duct banks greater than 12 feet from side of property line?	Yes	

Part 3: Project Alternatives

This FMP includes only "no-cost and low-cost" magnetic field reduction design options for SCE's Proposed Routes and Proposed Substation site. SCE's Proponent's Environmental Assessment (PEA) contains various alternative line routes and substation site(s). Comparable "no-cost and low-cost" magnetic field reduction options for the Proposed Project can be applied to all alternative subtransmission routes and substation sites. A Final FMP will be prepared should an alternative route be approved.

VI. FINAL RECOMMENDATIONS FOR IMPLEMENTING "NO-COST AND LOW-COST" MAGNETIC FIELD REDUCTION DESIGN OPTIONS

In accordance with the "EMF Design Guidelines" filed with the CPUC in compliance with D.93-11-013 and D.06-01-042, SCE would implement the following "no-cost and low-cost" magnetic field reduction design options for the Proposed Project:

Segment 1 - Proposed Lakeview 115 kV Subtransmission Line Route:

- Utilizing structure heights that meet or exceed SCE's EMF preferred design criteria; and
- Utilizing subtransmission line construction that reduces the space between conductors compared with other designs.

Segment 2 - Proposed Lakeview 115 kV Subtransmission Line Route:

- Utilizing structure heights that meet or exceed SCE's EMF preferred design criteria; and
- Utilizing subtransmission line construction that reduces the space between conductors compared with other designs.

Proposed Lakeview 115/12 kV Substation:

- Placing major substation electrical equipment (such as transformers, switchracks, buses and underground duct banks) away from the substation property lines; and
- Configuring the transfer and operating buses with the transfer bus closest to the nearest property line.

The recommended "no-cost and low-cost" magnetic field reduction design options listed above are based upon preliminary engineering designs, and therefore, they are subject to change during the final engineering designs. If the final engineering designs are different than preliminary engineering designs, SCE would implement comparable "no-cost and low-cost" magnetic field reduction design options. If the final engineering designs are significantly different (in the context of evaluating and implementing CPUC's "no-cost and low-cost" EMF Policy) than the preliminary designs, a Final FMP or an Addendum to the FMP will be prepared.

SCE's plan for applying the above "no-cost and low-cost" magnetic field reduction design options uniformly for the Proposed Project is consistent with the CPUC's EMF decisions

(D.93-11-013 and D.06-01-042) and also with recommendations made by the U.S. NIEHS. Furthermore, the recommendations above meet the CPUC-approved EMF Design Guidelines as well as all applicable national and state safety standards for new electrical facilities.

APPENDIX A: TWO-DIMENSIONAL MODEL ASSUMPTIONS AND YEAR 2013 FORECASTED LOADING CONDITIONS

Magnetic Field Model Assumptions

SCE uses a computer program titled "MFields"[41] to model the magnetic field characteristics of various transmission designs options. All magnetic field models and the calculated results of magnetic field levels presented in this document are intended only for purposes of identifying the relative differences in magnetic field levels among various subtransmission line and subtransmission line design alternatives under a specific set of modeling assumptions and determining whether particular design alternatives can achieve magnetic field level reductions of 15 percent or more. The calculated results are not intended to be predictors of the actual magnetic field levels at any given time or at any specific location if and when the project is constructed. Typical two-dimensional magnetic field modeling assumptions include:

- All subtransmission lines were modeled using forecasted peak loads. (see Table 5 below)
- All conductors were assumed to be straight and infinitely long.
- Average conductor heights accounted for line sag used in the calculation for the Lakeview-Moval 115 kV and Valley-Lakeview 115 kV subtransmission line designs.
- Magnetic field strength was calculated at a height of three feet above ground.
- Resultant magnetic fields values were presented in this FMP.
- All line currents were assumed to be balanced (i.e. neutral or ground currents are not considered).
- Terrain was assumed to be flat.

- Project dominant power flow directions were used.

Table 5. Year 2013 Forecasted Loading Conditions for Proposed 115 kV Subtransmission Lines		
Circuit Name	**Current (Amps)**	**Power Flow Direction**
Proposed Lakeview-Moval 115 kV Subtransmission Line (Segment 1)	300	Lakeview to Moval
Proposed Valley-Lakeview 115 kV Subtransmission Line (Segment 2)	420	Valley to Lakeview

Notes:

1. Forecasted loading data is based upon scenarios representing load forecasts for the second quarter of 2013. The forecasting data is subject to change depending upon availability of generations, load increase, changes in load demand, and by many other factors.

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41 SCE, MFields for Excel, Version 2.0, 2007.

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APPENDIX C
Air Quality

Introduction

This Appendix includes Southern California Edison (SCE)'s air pollutant and greenhouse gas emissions estimates for construction and operational activities that would be associated with the Project and Alternative 2. SCE's emission estimates associated with the Project were submitted to the CPUC on September 17, 2010 with its Proponent's Environmental Assessment as Appendix C, and SCE's emissions estimates associated with Alternative 2 were submitted to the CPUC on September 2, 2011.

SCE's emissions estimates were peer reviewed by CPUC's environmental consultant, Environmental Science Associates (ESA). After conducting its review, ESA determined that the SCE emission estimates for several sources were underestimated. Therefore, in addition to the SCE emission estimates, this appendix includes several emission estimate revisions and supplements to SCE's emission estimates. The appendix is organized as follows:

- Revisions to SCE's emission estimates presented in Table 5, Construction Emissions Localized Significance Threshold Analysis;
- Revisions to SCE's GHG Emission Estimates;
- SCE's Emission Estimates for the Project (PEA Appendix C); and
- SCE's Emission Estimates for Alternative 2.

Revisions to SCE Emission Estimates Table 5

SCE's LST emission estimates for construction of the subtransmission source line do not include emissions associated with road or right-of-way clearing because these activities would not be at fixed locations. However, given that the roadwork activities would result in relatively high emissions of PM10 and PM2.5, it is appropriate for the LST analysis to account for a portion of the road work emissions. Based on the number of days (i.e., 14 days; see SCE Table 25) that it would take to construct or rehabilitate approximately 4.2 miles of Project access roads, approximately 0.3 mile of roadwork would occur each day. Assuming 208.7 linear feet (i.e., square root of 43,560 square feet or 1 acre) of roadwork would occur within the vicinity of the sensitive receptor, the total on-site values for PM10 and PM2.5 roadwork (see SCE Table 25) were divided by 7.6 for the LST maximum emissions values. The local PM10 exceedance would occur at the residence along 11th Street and would be associated with rehabilitated access road construction. In addition, the receptor distance associated with the telecommunication construction was changed from 40 meters to 25 meters to more accurately represent to closes receptor distance.

REVISED Table 5, below, includes the changes (**underlined and bolded**) that have been made to SCE's Table 5 relative to the subtransmission source line construction and the telecommunications construction. As indicated in the table, the revisions result in an exceedance of the allowable PM10 emissions associated with the subtransmission source line construction.

REVISED Table 5
Construction Emissions
Localized Significance Threshold Analysis

Pollutant	Daily onsite Emissions (lb/lbs)	Receptor Distance (m)	Allowable Emissions Interpolation					Allowable Exceeded ?
			Distance 1 (m)	Emissions 1 (lb/day)	Distance 2 (m)	Emissions 2 (lb/day)	Interpolated Emissions (lb/day)	
Subtransmission Source Line Construction								
CO	10	25	25	602	50	887	602	No
NOx	28	25	25	118	50	148	118	No
PM10	**5**	25	25	4	50	12	4	**Yes**
PM2.5	**1**	25	25	3	50	4	3	No
Telecommunications Construction								
CO	9	**25**	25	602	50	887	**602**	No
NOx	28	**25**	25	118	50	148	**118**	No
PM10	1	**25**	25	4	50	12	**4**	No
PM2.5	1	**25**	25	3	50	4	**3**	No

Revisions to SCE's GHG Emission Estimates

SF_6 Emissions

For the annual onsite greenhouse gas (GHG) emissions estimate for fugitive SF_6, SCE assumed an SF_6 circuit breaker leak rate of 0.5 percent, but included no information to substantiate that leak rate. Therefore, a USEPA recommended emission leak rate of 1.0 percent was used to revise Project-related SF_6 emissions. In addition SCE used an SF_6 global warming potential (GWP) factor from an older version (i.e., 2008) of the California Climate Action Registry (CCAR) general reporting protocol that is slightly lower than what is presented in a more recent CCAR general reporting protocol (i.e., 2009). Therefore, the SF_6 leakage part of SCE's Table 47 has been replaced with the data presented below.

SF_6 for 115 kV circuit breakers (pounds)	**SF_6 GWP**	**Leak Factor**	**$C0_2e$ metric tons**
378	23,900	0.01	41.0

Sources: For pounds of SF6: SCE, 2010; for SF6 GWP: CCAR, 2009.

For leak rate: U.S. Environmental Protection Agency (USEPA), 2006. SF6 Leak Rates from High Voltage Circuit Breakers –
U.S. EPA Investigates Potential Greenhouse Gas Emissions Source. IEEE Power Engineering Society General Meeting, Montreal,
Quebec, Canada, June 2006

Indirect Water Usage Emissions

SCE's short-term construction GHG emissions estimates for the Project do not include indirect emissions that would be associated with water use for dust suppression. Therefore, SCE's emissions estimates have been supplemented with estimates for indirect short-term electricity usage-related GHG emissions associated with water use for dust control activities as follows.

Project Water Demand

8.3 Short-term construction demand (million gallons)

Use and Emission Factors

Water energy use factor* (CEC, 2005)

10,200 kW-hr/MG

Electricity use emission factors (CCAR, 2009)

	CO2	CH4	N2O
lbs/MW-hr	724.12	0.0302	0.0081

Project Indirect Electricity Usage

MW-hr/year 85.097143

Indirect Emission Assoc. with Electricity Use (metric tons/year)

	CO2	CH4	N2O	**CO2e**
Emissions	27.951	0.001	0.000	**28.073**

Notes: Global Warming Potential for CH4 = 25; GWP for N2O = 296.

* Water energy use factor includes supply, conveyance, treatment, and distribution.

Construction water demand assumes a daily use of 32,000 gallons.

References:

California Energy Commission (CEC), 2005. California's Water - Energy Relationship Prepared in Support of the 2005 Integrated Energy Policy Report Proceeding (04-IEPR-01E), November 2005 (Table 1-3, page 11).

California Climate Action Registry, 2009. General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.Tables C.4 and C.7.

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Appendix C Air Quality Calculations

Table of Contents

Tables

This appendix describes the procedures used to analyze potential air quality impacts for the Lakeview Substation Project Proponent's Environmental Assessment (PEA).

1.0 ANALYSIS OVERVIEW

The following analyses of potential air quality impacts were conducted:

- Total peak daily emissions of criteria pollutants and precursors (volatile organic compounds [VOC], carbon monoxide [CO], nitrogen oxides [NOx], sulfur oxides [SOx], particulate matter smaller than 10 microns aerodynamic diameter [PM_{10}] and particulate matter smaller than 2.5 microns aerodynamic diameter [$PM_{2.5}$]) during construction (including construction of the Proposed Substation, distribution facilities, Subtransmission Source Lines, and telecommunication facilities, and demolition of the Nuevo and Model Pole Top substations) and operation of the Proposed Project were calculated and compared with California Environmental Quality Act (CEQA) significance thresholds for regional air quality impacts adopted by the South Coast Air Quality Management District (SCAQMD)

- On-site peak daily emissions of CO, NOx, PM_{10} and $PM_{2.5}$ during construction and operation of the proposed project were calculated and analyzed to evaluate potential localized impacts

- Total greenhouse gas (GHG) emissions during construction and operation of the Proposed Project were calculated to evaluate potential cumulative impacts from GHG emissions

Section 2 of this appendix describes the emission calculation procedures for the types of activities that are anticipated to generate emissions during construction and operation of the Proposed Project, Section 3 describes the calculation of peak daily emissions, Section 4 describes the calculation of total GHG emissions, and Section 5 describes the analysis of potential localized impacts. References are provided in Section 6. The associated calculations are provided in the attached tables.

2.0 EMISSION CALCULATIONS

2.1 Emission Sources

Construction and operational emissions can be distinguished as either on-site or off-site. On-site emissions principally consist of exhaust emissions (CO, VOC, NOx, SOx, PM_{10}, $PM_{2.5}$ and GHG) from construction equipment and motor vehicles, entrained PM_{10} and $PM_{2.5}$ from vehicles traveling on paved and unpaved surfaces, fugitive dust (PM_{10} and $PM_{2.5}$) from grading and excavation, VOC from asphaltic paving, and GHG from leakage of equipment containing sulfur hexafluoride (SF_6). Off-site emissions during the construction and operation phases consist of exhaust emissions and entrained paved and unpaved road dust from motor vehicles.

2.2 Construction Equipment Exhaust Emission Calculations

The combustion of fuel to provide power for the operation of construction equipment results in the generation of exhaust emissions. The following equation was used to calculate daily exhaust emissions from each type of construction equipment used during each construction phase for the Proposed Project:

$$E_{i,j} = EF_{i,j} \times H_j \times N_j \quad \text{(Eq. 1)}$$

where:

$E_{i,j}$ = Emissions of pollutant i from equipment type j [pounds/day]

$EF_{i,j}$ = Emission factor for pollutant i from equipment type j [pounds/operating hour]

H_j = Daily operating time for equipment type j [hours/day]

N_j = Number of pieces of equipment of type j

The exhaust emission factors, $EF_{i,j}$, used for the calculations for diesel-fueled equipment are composite horsepower-based off-road emission factors for 2012, the year construction is anticipated to begin, developed for the SCAQMD by the California Air Resources Board (CARB) from its OFFROAD 2007 Model (SCAQMD, 2008a). The composite off-road emission factors were derived based on equipment type (e.g., tractor, dozer, scraper), and average equipment age and horsepower rating within horsepower ranges for the year.

The emission factors developed by CARB for the SCAQMD are listed in Table 48 in the attached tables. They include emission factors for VOC, CO, NOx, SOx and PM_{10}, as well as two GHGs (carbon dioxide [CO_2] and methane [CH_4]). $PM_{2.5}$ emission factors were calculated by multiplying the PM_{10} emission factors by the $PM_{2.5}$ fraction of PM_{10} in construction equipment engine exhaust (SCAQMD, 2006).

Aerial lifts and some of the forklifts to be used during construction of the Proposed Project are anticipated to be propane-fueled. Since the emission factors available from the SCAQMD are only for diesel-fueled equipment, AECOM used the CARB OFFROAD 2007 Model to calculate total daily emissions and total daily operating hours for natural gas-fueled[1] aerial lifts and forklifts during 2012 in the SCAQMD's jurisdiction. Total daily emissions by equipment horsepower range were then divided by total daily operating hours to calculate hourly emission factors. The resulting emission factors are listed in Table 48 in the attached tables.

The following equation was used to calculate total GHG emissions from each type of construction equipment during each construction phase:

[1] The OFFROAD 2007 Model does not calculate emissions from propane-fueled equipment. Therefore, emissions from natural gas-fueled equipment were used to estimate emissions from propane-fueled equipment.

$$E_{GHG,j} = (E_{CO2,j} + 21 \times E_{CH4,j}) \times D_j \times 4.536 \times 10^{-4} \quad \text{(Eq. 2)}$$

where:

$E_{GHG,j}$ = Total GHG emissions from equipment type j [metric tons (1,000 kilograms) carbon dioxide equivalent]

$E_{CO2,j}$ = Daily CO_2 emissions from equipment type j [pounds/day]

21 = Global warming potential for CH_4 relative to CO_2

$E_{CH4,j}$ = Daily CH_4 emissions from equipment type j [pounds/day]

D_j = Days equipment of type j are used during the construction phase

4.536×10^{-4} = Metric tons per pound unit conversion

Table 3.5, Construction Equipment and Workforce Estimates, in Chapter 3, Project Description, of the PEA provided the types, number, daily operating hours and total operating days for construction equipment anticipated to be used during each construction phase for the Proposed Project. Horsepower ratings for the equipment were estimated from typical horsepower ratings for the types of equipment anticipated to be used. All construction equipment exhaust emissions were anticipated to occur on-site.

Daily VOC, CO, NOx, SOx, PM_{10} and $PM_{2.5}$ and total GHG construction equipment exhaust emissions calculations for each construction phase are provided in Tables 7 through 46 in the attached tables.

2.3 Motor Vehicle Exhaust Emission Calculations

The combustion of fuel in motor vehicle engines results in the generation of exhaust emissions. The following equation was used to calculate daily exhaust emissions from each type of motor vehicle used during each construction phase and during operation of the Proposed Project:

$$E_{i,j} = EF_{i,j} \times VMT_j \times N_j \quad \text{(Eq. 3)}$$

where:

$E_{i,j}$ = Emissions of pollutant i from motor vehicle type j [pounds/day]

$EF_{i,j}$ = Emission factor for pollutant i from motor vehicle type j [pounds/vehicle-mile-traveled]

VMT_j = Daily vehicle-miles-traveled (VMT) by motor vehicle type j [miles/day]

N_j = Number of motor vehicles of type j

The SCAQMD (2007a) has derived motor vehicle emission factors using CARB's EMFAC 2007 (v2.3) BURDEN model. The emission factors were derived by dividing the total daily district-wide emissions by total daily vehicle-miles-traveled (VMT) to obtain

emission factors in pounds per mile traveled. Emission factors were derived for gasoline-fueled passenger/light-duty vehicles and diesel-fueled medium-/heavy-duty vehicles by taking the weighted average of vehicle types and simplifying them into two categories - passenger/light-duty and medium-/heavy-duty vehicles (e.g., delivery trucks). Emission factors were also derived for heavy heavy-duty diesel-fueled trucks, which have a vehicle weight ranging between 33,001 and 60,000 pounds.

The emission factors developed by the SCAQMD (2007a) are listed in Tables 49 and 50 in the attached tables. They include emission factors for VOC, CO, NOx, SOx, PM_{10}, CO_2 and CH_4. $PM_{2.5}$ emission factors were calculated by multiplying the PM_{10} emission factors by the $PM_{2.5}$ fraction of PM_{10} in motor vehicle exhaust (SCAQMD, 2006).

The following equation was used to calculate total GHG emissions from each type of vehicle during each construction phase and during operation of the Proposed Project:

$$E_{GHG,j} = (E_{CO2,j} + 21 \times E_{CH4,j}) \times D_j \times 4.536 \times 10^{-4} \quad \text{(Eq. 2)}$$

where:

$E_{GHG,j}$ = Total GHG emissions from vehicle type j [metric tons carbon dioxide equivalent]

$E_{CO2,j}$ = Daily CO_2 emissions from vehicle type j [pounds/day]

21 = Global warming potential for CH_4 relative to CO_2

$E_{CH4,j}$ = Daily CH_4 emissions from vehicle type j [pounds/day]

D_j = Days vehicles of type j are used during the construction phase

4.536×10^{-4} = Metric tons per pound unit conversion

The types of vehicles, the vehicle categories used to assign emission factors, the number of vehicles used and the basis for estimating the number of vehicles during each construction phase and during operation of the Proposed Project are listed in Table C-1, Motor Vehicle Categories and Numbers. The daily on-site and off-site VMT for each type of vehicle and the basis for the VMT estimates during each construction phase and during operation of the Proposed Project are listed in Table C-2, Motor Vehicle Daily Vehicle-Miles-Traveled. Table C-2 also lists estimated VMT for travel on paved and unpaved roads and surfaces. Although exhaust emissions are independent of the type of surface, entrained fugitive particulate matter emission factors, as discussed in Section 2.4, Motor Vehicle Entrained Particulate Matter Calculations, are different for travel on paved and unpaved surfaces.

Daily motor vehicle exhaust emission calculations are provided in Tables 7 through 47 in the attached tables.

Table C-1 Motor Vehicle Categories and Numbers

Vehicle	Category[1]	Number	Basis for Number[2]
Substation Survey			
Survey Truck	Passenger	2	Table 3.5
Worker Commute	Passenger	2	Table 3.5
Substation Grading			
Water Truck	HHDT	1	Table 3.5
Tool Truck	Passenger	1	Table 3.5
Pickup 4x4	Passenger	1	Table 3.5
Dump Truck	HHDT	45	Based on 40,000 CY export/import (Table 3.1) over 90 days and 10 CY/truck: 40,000 / 90 / 10 = 44.4
Worker Commute	Passenger	15	Table 3.5
Substation Fencing			
Flatbed Truck	Delivery	1	Table 3.5
Crewcab Truck	Delivery	1	Table 3.5
Worker Commute	Passenger	4	Table 3.5
Substation Civil			
Dump Truck	HHDT	1	Based on 450 CY excavated (Table 3.1) over 60 days and 10 CY/truck: 450 / 60 / 10 = 0.8
Water Truck	HHDT	1	Table 3.5
Tool Truck	Passenger	1	Table 3.5
Concrete Truck	HHDT	9	Based on total of 445 CY concrete poured (Table 3.1) over 5 days and 10 CY/truck: 445 / 5 / 10 = 8.9
Worker Commute	Passenger	10	Table 3.5
Substation MEER			
Carry-all Truck	Delivery	1	Table 3.5
Stake Truck	Delivery	1	Table 3.5
Worker Commute	Passenger	4	Table 3.5
Substation Electrical			
Crew Truck	Passenger	2	Table 3.5
Worker Commute	Passenger	10	Table 3.5
Substation Wiring			
Worker Commute	Passenger	5	Table 3.5
Substation Transformers			

Vehicle	Category[1]	Number	Basis for Number[2]
Crew Truck	Passenger	1	Table 3.5
Low Bed Truck	HHDT	1	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Substation Maintenance Crew Equipment Check			
Maintenance Truck	Passenger	2	Table 3.5
Worker Commute	Passenger	2	Table 3.5
Substation Testing			
Crew Truck	Passenger	1	Table 3.5
Worker Commute	Passenger	2	Table 3.5
Substation Asphalting			
Stake Truck	HHDT	1	Table 3.5
Dump Truck	HHDT	1	Table 3.5
Crew Truck	Passenger	2	Table 3.5
Asphalt Delivery Truck	HHDT	4	Based on 308 CY (Table 3.1) over 8 days and 10 CY/truck: 308 / 8 / 10 = 3.9
Aggregate Base Delivery Truck	HHDT	6	Based on 370 CY (Table 3.1) over 7 days and 10 CY/truck: 370 / 7 / 10 = 5.3
Worker Commute	Passenger	6	Table 3.5
Substation Landscaping			
Dump Truck	HHDT	1	Table 3.5
Crushed Rock Delivery Truck	HHDT	7	Based on 1,050 CY (Table 3.1) over 15 days and 10 CY/truck: 1,050 /15 / 10 = 7.0
Worker Commute	Passenger	6	Table 3.5
Substation Irrigation			
Crew Truck	Passenger	1	Table 3.5
Worker Commute	Passenger	7	Table 3.5
Distribution Civil			
Dump Truck	HHDT	4	Based on 315 CY (Table 3.1) over 9 days and 10 CY/truck: 450 / 9 / 10 = 3.5
Delivery Truck	HHDT	1	Table 3.5
Concrete Truck	Delivery	2	Based on 100 CY (estimate) over 9 days and 10 CY/truck: 100 / 9 / 10 = 1.1
Worker Commute	Passenger	5	Table 3.5
Distribution Electrical			
Rodder Truck	HHDT	1	Table 3.5
Reel Truck	HHDT	1	Table 3.5

Vehicle	Category[1]	Number	Basis for Number[2]
Line Truck	Delivery	1	Table 3.5
Troubleman Truck	Delivery	1	Table 3.5
Boom Truck	HHDT	1	Table 3.5
Foreman Truck	Passenger	1	Table 3.5
Worker Commute	Passenger	8	Table 3.5
Subtransmission Survey			
1/2-Ton Pick-up Truck, 4x4	Passenger	1	Table 3.5
Worker Commute	Passenger	2	Table 3.5
Subtransmission Marshalling Yard			
1-Ton Crew Cab, 4x4	Delivery	1	Table 3.5
Truck, Semi Tractor	HHDT	1	Table 3.5
Worker Commute	Passenger	4	Table 3.5
Subtransmission Right-of-Way Clearing			
Water Truck	HHDT	4	Based on 16,000 gal/day and 4,000 gal truck: 16,000 / 4,000 = 4
1-Ton Crew Cab, 4x4	Delivery	1	Table 3.5
Lowboy Truck/Trailer	HHDT	1	Table 3.5
Worker Commute	Passenger5	5	Table 3.5
Subtransmission Roads and Landing Work			
Water Truck	HHDT	8	Based on 32,000 gal/day and 4,000 gal/truck: 32,000 / 4,000 = 8
1-Ton Crew Cab, 4x4	Delivery	1	Table 3.5
Lowboy Truck/Trailer	HHDT	1	Table 3.5
Aggregate Base Delivery Truck	HHDT	29	Based on 4,000 CY (Section 3.2.3.2) over 14 days and 10 CY/truck: 4,000 / 14 / 10 = 28.6
Worker Commute	Passenger	5	Table 3.5
Subtransmission Guard Structure Installation			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5
Extendable Flat Bed Pole Truck	HHDT	1	Table 3.5
Auger Truck	HHDT	1	Table 3.5
30-Ton Crane Truck	HHDT	1	Table 3.5
80ft. Hydraulic Manlift/Bucket Truck	HHDT	1	Table 3.5

Vehicle	Category[1]	Number	Basis for Number[2]
Worker Commute	Passenger	6	Table 3.5
Subtransmission Wood Poles Removal			
1-Ton Crew Cab, 4x4	Delivery	1	Table 3.5
Flat Bed Truck/Trailer	HHDT	1	Table 3.5
30-Ton Crane Truck	HHDT	1	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Subtransmission TSP Foundations Installation			
Water Truck	HHDT	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5
10-CY Dump Truck	HHDT	8	Based on excavating 18' dia. x 40' deep (Table 3.2) = 74.5 CY foundation/day and 10 CY truck: 74.5 / 10 = 7.5
10-CY Concrete Mixer Truck	HHDT	8	Based on pouring 18' dia. x 40' deep (Table 3.2) = 74.5 CY foundation/day and 10 CY truck: 74.5 / 10 = 7.5
30-Ton Crane Truck	HHDT	1	Table 3.5
Auger Truck	HHDT	1	Table 3.5
Worker Commute	Passenger	7	Table 3.5
Subtransmission Wood Pole Installation			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5
Worker Commute	Passenger	8	Table 3.5
Subtransmission Steel Pole Haul			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
40' Flat Bed Truck/Trailer	HHDT	1	Table 3.5
Worker Commute	Passenger	4	Table 3.5
Subtransmission Steel Pole Assembly			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5
Worker Commute	Passenger	8	Table 3.5
Subtransmission Steel Pole Erection			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5

Vehicle	Category[1]	Number	Basis for Number[2]
Worker Commute	Passenger	8	Table 3.5
Subtransmission Conductor Installation			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5
Wire Truck/Trailer	HHDT	1	Table 3.5
Dump Truck (Trash)	HHDT	1	Table 3.5
Bucket Truck	HHDT	1	Table 3.5
22-Ton Manitex	HHDT	1	Table 3.5
Splicing Rig	Delivery	1	Table 3.5
Splicing Lab	Delivery	1	Table 3.5
3 Drum Straw Line Puller	HHDT	1	Table 3.5
Static Truck/Tensioner	HHDT	1	Table 3.5
Worker Commute	Passenger	16	Table 3.5
Subtransmission Guard Structure Removal			
3/4-Ton Pick-up Truck, 4x4	Delivery	1	Table 3.5
1-Ton Crew Cab Flat Bed, 4x4	Delivery	1	Table 3.5
Extendable Flat Bed Pole Truck	HHDT	1	Table 3.5
30-Ton Crane Truck	HHDT	1	Table 3.5
80-Foot Hydraulic Manlift/Bucket Truck	HHDT	1	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Subtransmission Restoration			
Water Truck	HHDT	1	Table 3.5
1-Ton Crew Cab, 4x4	Delivery	1	Table 3.5
Lowboy Truck/Trailer	HHDT	1	Table 3.5
Worker Commute	Passenger	7	Table 3.5
Telecommunications Control Building			
Van	Passenger	2	Table 3.5
Crew Truck	Delivery	1	Table 3.5
Worker Commute	Passenger	4	Table 3.5
Telecommunications Overhead Installation			
Bucket Truck	Delivery	2	Table 3.5
Splice Lab Truck	Delivery	1	Table 3.5

Vehicle	Category[1]	Number	Basis for Number[2]
Crew Truck	Delivery	1	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Telecommunications Underground Facility			
Crew Truck	Delivery	2	Table 3.5
Flatbed Truck	HHDT	1	Table 3.5
Stake Truck	HHDT	1	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Telecommunications Underground Installation			
Reel Truck	HHDT	2	Table 3.5
Crew Truck	Delivery	1	Table 3.5
Splice Lab Truck	Delivery	1	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Telecommunications Systems at Other Locations			
Van	Passenger	6	Table 3.5
Worker Commute	Passenger	6	Table 3.5
Nuevo Substation Demolition Civil			
Dump Truck	HHDT	2	Table 3.5
Water Truck	HHDT	1	Table 3.5
Tool Truck	Passenger	1	Table 3.5
Worker Commute	Passenger	5	Table 3.5
Nuevo Substation Demolition Electrical			
Tool Trailer	Passenger	1	Table 3.5
Crew Truck	Passenger	2	Table 3.5
Worker Commute	Passenger	5	Table 3.5
Nuevo Substation Demolition Equipment Check			
Maintenance Truck	Passenger	1	Table 3.5
Worker Commute	Passenger	2	Table 3.5
Nuevo Substation Demolition Testing			
Crew Truck	Passenger	1	Table 3.5
Worker Commute	Passenger	2	Table 3.5
Model P. T. Substation Demolition Civil			
Dump Truck	HHDT	1	Table 3.5
Flatbed Truck	HHDT	1	Table 3.5
Foreman Truck	Passenger	1	Table 3.5

Vehicle	Category[1]	Number	Basis for Number[2]
Worker Commute	Passenger	5	Table 3.5
Model P. T. Substation Demolition Electrical			
Line Truck	Delivery	1	Table 3.5
Troubleman Truck	Delivery	1	Table 3.5
Boom Truck	Delivery	1	Table 3.5
Foreman Truck	Delivery	1	Table 3.5
Flatbed Truck	Delivery	1	Table 3.5
Pumper/Tanker Truck	Delivery	1	Table 3.5
Worker Commute	Passenger	5	Table 3.5
Operations			
Subtransmission Line Inspection	Passenger	1	Section 3.12
Substation Site Visit	Passenger	1	Section 3.12

Notes:
CY = cubic yards; dia = diameter; gal = gallons; MEER = Mechanical and Electrical Equipment Room; TSP = Tubular Steel Poles; ' = feet

[1] Category is used to assign emission factors. 'Passenger' is passenger vehicles in Table 49 in the attached tables, and is used for all gasoline-fueled vehicles. 'Delivery' is delivery vehicles in Table 49 in the attached tables, and is used for diesel-fueled vehicles except for heavy, heavy duty diesel-fueled trucks (HHDT). 'HHDT' is heavy, heavy-duty diesel-fueled trucks in Table 50 in attached tables.

[2] Table and section numbers refer to tables and sections in PEA Chapter 3, Project Description.

Table C-2 Motor Vehicle Daily Vehicle-Miles-Traveled

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Substation Survey					
Survey Truck	1	60	0	60	Survey company assumed to be within 30 mi. of substation
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Grading					
Water Truck	2	10	0	10	Water supply within 5 mi.
Tool Truck	1	14	0	14	Travel from Menifee Service Center
Pickup 4x4	1	14	0	14	Travel from Menifee Service Center
Dump Truck	0.2	60	0	60	Borrow/disposal sites within 30 mi.
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Substation Fencing					
Flatbed Truck	2	14	0	14	Travel from Menifee Service Center
Crewcab Truck	1	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Civil					
Dump Truck	1	0	0	0	Dump truck stays on-site
Water Truck	1	10	0	10	Water supply assumed to be within 5 mi. of substation
Tool Truck	1	14	0	14	Travel from Menifee Service Center
Concrete Truck	0.1	60	0	60	Concrete supplier within 30 mi.
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation MEER					
Carry-all Truck	1	14	0	14	Travel from Menifee Service Center
Stake Truck	1	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Electrical					
Crew Truck	1	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Wiring					
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Transformers					
Crew Truck	1	14	0	14	Travel from Menifee Service Center
Low Bed Truck	1	0	0	0	Low bed truck stays on-site
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Maintenance Crew Equipment Check					
Maintenance Truck	0.5	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Testing					
Crew Truck	0.5	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Asphalting					

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Stake Truck	1	0	0	0	Stake truck stays on-site
Dump Truck	1	0	0	0	Dump truck stays on-site
Crew Truck	2	14	0	14	Travel from Menifee Service Center
Asphalt Delivery Truck	0.1	60	0	60	Asphalt supplier within 30 mi.
Aggregate Base Delivery Truck	0.1	60	0	60	Aggregate supply within 30 mi.
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Landscaping					
Dump Truck	1	0	0	0	Dump truck stays on-site
Crushed Rock Delivery Truck	0.1	60	0	60	Crushed rock supply within 30 mi.
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Substation Irrigation					
Crew Truck	0.5	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Distribution Civil					
Dump Truck	0	60	0	60	Disposal site within 30 mi.
Delivery Truck	0	60	0	60	Equipment supplier within 30 mi.
Concrete Truck	0	60	0	60	Concrete supplier within 30 mi.
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Distribution Electrical					
Rodder Truck	0	14	0	14	Travel from Menifee Service Center
Reel Truck	0	14	0	14	Travel from Menifee Service Center
Line Truck	0	14	0	14	Travel from Menifee Service Center
Troubleman Truck	0	14	0	14	Travel from Menifee Service Center
Boom Truck	0	14	0	14	Travel from Menifee Service Center
Foreman Truck	0	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Survey					
1/2-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Worker Commute	0	60	0	0	Workers assumed to be located within 30 mi.
Subtransmission Marshalling Yard					
1-Ton Crew Cab, 4x4	5	0	0	0	Traveling on-site 25% of 2 hr/day at 10 mph
Truck, Semi Tractor	2.5	0	0	0	Traveling on-site 25% of 1 hr/day at 10 mph
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Right-of-Way Clearing					
Water Truck	1	10	3	13	Water supply within 5 mi. of Subtransmission Source Line Route (paved); roundtrip along 1.5 mi. of Subtransmission Source Line Route (unpaved)
1-Ton Crew Cab, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Lowboy Truck/Trailer	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Roads and Landing Work					
Water Truck	1	10	3	13	Water supply within 5 mi. of Ssubtransmission Source Line Route (paved); roundtrip along 1.5 mi. of Subtransmission Source Line Route (unpaved)
1-Ton Crew Cab, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Lowboy Truck/Trailer	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Aggregate Base Delivery Truck	0	60	4	64	Aggregate supply within 30 mi. of Subtransmission Source Line Route (paved); roundtrip along Subtransmission Source Line Route (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Guard Structure Installation					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Extendable Flat Bed Pole Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Auger Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
30-Ton Crane Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
80-Foot Hydraulic Manlift/Bucket Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Wood Poles Removal					
1-Ton Crew Cab, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Flat Bed Truck/Trailer	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
30-Ton Crane Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission TSP Foundations Installation					
Water Truck	0	10	4	14	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
10-cu. yd. Dump Truck	0	60	4	64	Disposal site within 30 mi. of Subtransmission Source Line Route (paved); roundtrip along Subtransmission Source Line Route (unpaved)
10-cu. yd. Concrete Mixer Truck	0	60	4	64	Concrete supply within 30 mi. of Subtransmission Source Line Route (paved); roundtrip along Subtransmission Source Line Route (unpaved)

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
30-Ton Crane Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Auger Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Wood Pole Installation					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Steel Pole Haul					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
40' Flat Bed Truck/Trailer	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Steel Pole Assembly					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Steel Pole Erection					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Conductor Installation					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Wire Truck/Trailer	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Dump Truck (Trash)	0	60	4	64	Disposal site within 30 mi. of Subtransmission Source Line Route (paved); roundtrip along Subtransmission Source Line Route (unpaved)
Bucket Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
22-Ton Manitex	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Splicing Rig	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Splicing Lab	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
3 Drum Straw Line Puller	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Static Truck/Tensioner	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Guard Structure Removal					
3/4-Ton Pick-up Truck, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab Flat Bed, 4x4	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Extendable Flat Bed Pole Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
30-Ton Crane Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
80-Foot Hydraulic Manlift/Bucket Truck	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Subtransmission Restoration					
Water Truck	3	10	3	13	Travel from Menifee Service Center (paved); 1.5 mi. roundtrip along Subtransmission Source Line ROW (unpaved)
1-Ton Crew Cab, 4x4	3	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Lowboy Truck/Trailer	0	14	4	18	Travel from Menifee Service Center (paved); roundtrip along Subtransmission Source Line ROW (unpaved)
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Telecommunications Control Building					
Van	0	14	0	14	Travel from Menifee Service Center
Crew Truck	0	14	0	14	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Telecommunications Overhead Installation					
Bucket Truck	0	0	21	21	Roundtrip along Subtransmission Source Line ROW (4 mi.) plus travel along ROW from new Subtransmission Source Line ROW to Moval Substation (17 mi.)
Splice Lab Truck	0	0	21	21	Roundtrip along Subtransmission Source Line ROW (4 mi.) plus travel along ROW from new Subtransmission Source Line ROW to Moval Substation (17 mi.)
Crew Truck	0	0	21	21	Roundtrip along Subtransmission Source Line ROW (4 mi.) plus travel along ROW from new Subtransmission Source Line ROW to Moval Substation (17 mi.)

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Telecommunications Underground Facility					
Crew Truck	0	1	0	1	Worksite within 0.5 mi. from nearest substation
Flatbed Truck	0	1	0	1	Worksite within 0.5 mi. from nearest substation
Stake Truck	0	1	0	1	Worksite within 0.5 mi. from nearest substation
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Telecommunications Underground Installation					
Reel Truck	0	1	0	1	Worksite within 0.5 mi. from nearest substation
Crew Truck	0	1	0	1	Worksite within 0.5 mi. from nearest substation
Splice Lab Truck	0	1	0	1	Worksite within 0.5 mi. from nearest substation
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Telecommunications Systems at Other Locations					
Van	0	60	0	60	Other substations assumed within 30 mi.
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Nuevo Substation Demolition Civil					
Dump Truck	1	60	0	60	Disposal site within 30 mi.
Water Truck	1	10	0	10	Water supply within 5 mi.
Tool Truck	1	0	0	0	Tool truck stays on-site
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Nuevo Substation Demolition Electrical					
Tool Trailer	1	0	0	0	Tool trailer stays on-site
Crew Truck	1	12	0	12	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Nuevo Substation Demolition Equipment Check					
Maintenance Truck	0.5	12	0	12	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Nuevo Substation Demolition Testing					
Crew Truck	0.5	12	0	12	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Model P. T. Substation Demolition Civil					
Dump Truck	1	60	0	60	Disposal site within 30 mi.

Vehicle	On-Site Daily VMT (mi)[1]	Off-Site Daily VMT (mi)			Notes
		P[2]	U[2]	T[2]	
Flatbed Truck	1	12	0	12	Travel from Menifee Service Center
Foreman Truck	1	12	0	12	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Model P. T. Substation Demolition Electrical					
Line Truck	0.5	12	0	12	Travel from Menifee Service Center
Troubleman Truck	0.5	12	0	12	Travel from Menifee Service Center
Boom Truck	0.5	12	0	12	Travel from Menifee Service Center
Foreman Truck	0.5	12	0	12	Travel from Menifee Service Center
Flatbed Truck	0.5	12	0	12	Travel from Menifee Service Center
Pumper/Tanker Truck	0.5	12	0	12	Travel from Menifee Service Center
Worker Commute	0	60	0	60	Workers assumed to be located within 30 mi.
Operations					
Subtransmission Line Inspection	0	60	7	67	Trip origin within 30 mi.; roundtrip along entire Subtransmission Source Line Route (unpaved)
Substation Site Visit	0	60	0	60	Trip origin within 30 mi.

Notes:
CY = cubic yards; hr/day = hours per day; MEER = Mechanical and Electrical Equipment Room; mi = miles; mph = miles per hour; ROW = rights-of-way; TSP = Tubular Steel Poles; ‘ = feet
[1] On-site travel estimated from site dimensions. All on-site travel is unpaved, except for marshalling yard and Nuevo and Model Pole Top substations.
[2] P = off-site paved road/surface VMT; U = off-site unpaved road/surface VMT; T = total off-site VMT

2.4 Motor Vehicle Entrained Particulate Matter Emission Calculations

Motor vehicles entrain particulate matter from the surfaces on which they travel. The following equation was used to calculate daily entrained particulate matter emissions from each type of motor vehicle used during each construction phase and during operation for the Proposed Project:

$$E_{i,j,k} = EF_{i,j,k} \times VMT_{j,k} \times N_j \quad \text{(Eq. 4)}$$

where:

$E_{i,j,k}$ = Emissions of pollutant i (PM_{10} or $PM_{2.5}$) from motor vehicle type j traveling on surface type k (paved or unpaved) [pounds/day]

$EF_{i,j,k}$ = Emission factor for pollutant i from motor vehicle type j on surface type k [pounds/VMT]

$VMT_{j,k}$ = Daily VMT by motor vehicle type j on surface type k [miles/day]

N_j = Number of motor vehicles of type j

The following equation (EPA, 2006a) was used to calculate the emission factors for motor vehicles traveling on paved roads and surfaces:

$$EFi_{i,j,P} = k_{i,p} \times (sL / 2)^{0.65} \times (W_j/3)^{1.5} - C \quad \text{(Eq. 5)}$$

where:

$EF_{i,j,P}$ = Emission factor for pollutant i (PM_{10} or $PM_{2.5}$) from motor vehicle type j traveling on paved surfaces [pounds/VMT]

$k_{i,P}$ = Particle size multiplier for pollutant i

= 0.016 for PM_{10}

= 0.0024 for $PM_{2.5}$

sL = Surface silt loading [grams/square meter]

W_j = Average weight of vehicles traveling on the paved surface [tons]

C = Exhaust, brake wear and tire wear adjustment [pounds/VMT]

= 0.0047 for PM_{10}

= 0.00036 for $PM_{2.5}$

The paved road silt loading of 0.035 grams/square meter and the average on-road vehicle weight of 3.2 tons in Riverside County from CARB (1997) were used for the calculations.

The following equation (EPA, 2006b) was used to calculate the emission factors for motor vehicles traveling on unpaved roads and surfaces:

$$EF_{i,i,U} = k_{i,u} \times (s / 12)^{0.9} \times (W_j/3)^{0.45} \times (1 - CE_U / 100) \quad \text{(Eq. 6)}$$

where:

$EF_{i,j,U}$ = Emission factor for pollutant i (PM_{10} or $PM_{2.5}$) from motor vehicle type j traveling on unpaved surfaces [pounds/VMT]

$k_{i,u}$ = Particle size multiplier for pollutant i

= 1.5 for PM_{10}

= 0.15 for $PM_{2.5}$

s = Silt content of the unpaved surface [percent by weight]

W_j = Average weight of vehicles traveling on the unpaved surface [tons]

CE_U = Control efficiency for entrained particulate matter emissions from unpaved surfaces [percent]

The unpaved road silt content of 7.5 percent for overburden from the SCAQMD CEQA Handbook, (SCAQMD, 1993), Table A9-9-E-1, was used. Vehicle weights were estimated from the type of vehicle. The control efficiency of 57 percent from limiting speeds on unpaved roads to 15 miles per hour (mph) (SCAQMD, 2007b) was used for the calculations.

Entrained particulate matter emission factors by type of vehicle and surface are provided in Table 51 in the attached tables. Estimated daily VMT on paved and unpaved surfaces by type of vehicle during each construction phase and during operation of the Proposed Project are listed in Table C-2, Motor Vehicle Daily Vehicle-Miles-Traveled.

Motor vehicle entrained particulate matter emission calculations are provided in Tables 7 through 47 in the attached tables.

2.5 Earthwork Fugitive Particulate Matter Emission Calculations

Handling soil during excavation and grading generates fugitive particulate matter from soil dropping during transfers, wind erosion of temporary storage piles, and bulldozing, scraping and grading.

The following equation was used to calculate daily emissions from soil dropping during construction of the Proposed Project:

$$E_i = EF_i \times V_S \quad \text{(Eq. 7)}$$

where:

E_i = Emissions of pollutant i (PM_{10} or $PM_{2.5}$) from soil dropping [pounds/day]

EF_i = Emission factor for pollutant i from soil dropping [pounds/cubic yard]

V_S = Volume of soil dropped [cubic yards/day]

The following equation (EPA, 2006c) was used to calculate the emission factor for fugitive particulate matter emissions from soil dropping:

$$EF_i = f_i \times 0.011 \times (WS / 5)^{1.3} / (M / 2)^{1.4} \times N_S \times D_S \quad \text{(Eq. 8)}$$

where:

EF_i = Emission factor for fugitive particulate matter emissions from soil dropping

f_i = Mass fraction of pollutant i (PM_{10} or $PM_{2.5}$) in PM_{10} emissions from soil dropping

= 1 for PM_{10}

= 0.208 for $PM_{2.5}$ from SCAQMD (2006)

WS = Mean wind speed [miles/hour]

= 12 miles/hour from SCAQMD CEQA Air Quality Handbook (1993), Table 9-9-G

M = Soil moisture content [percent by weight]

= 10.6 percent average of near-surface soil samples from Proposed Substation Site preliminary geotechnical investigation

N_S = Number of times each cubic yard is dropped [number/day]

= 4 (assumption)

D_S = Soil density [tons/cubic yard]

= 1.47 tons/cubic yard average of near-surface soil samples from Proposed Substation Site preliminary geotechnical investigation

The following equation was used to calculate daily emissions from storage pile wind erosion during construction of the Proposed Project:

$$E_i = EF_i \times A_S \quad \text{(Eq. 9)}$$

where:

E_i = Emissions of pollutant i (PM_{10} or $PM_{2.5}$) from storage pile wind erosion [pounds/day]

EF_i = Emission factor for pollutant i from storage pile wind erosion [pounds/acre-day]

A_S = Exposed storage pile surface area [acres]

The following equation from the SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993), Table 9-9-E, was used to calculate the emission factor for fugitive particulate matter emissions from storage pile wind erosion:

$$EF_i = f_i \times 0.85 \times (s / 1.5) \times (365 / 235) \times (P_W / 15) \times (1 - CE / 100) \quad \text{(Eq. 10)}$$

where:

EF_i = Emission factor for fugitive particulate matter emissions from storage pile wind erosion

f_i = Mass fraction of pollutant i (PM_{10} or $PM_{2.5}$) in PM_{10} emissions from storage pile wind erosion

= 1 for PM_{10}

= 0.208 for $PM_{2.5}$ from SCAQMD (2006)

s = Storage pile silt content [weight percent]

= 26.7 percent average of near-surface soil samples from Proposed Substation Site preliminary geotechnical investigation

P_W = Percent of time unobstructed wind speed exceeds 12 miles/hour

= 100 percent (conservative assumption)

CE = Control efficiency [percent]

= 90 percent from watering storage pile by hand at a rate of 1.4 gallons/hour-square yard (SCAQMD, 2007b)

The following equation was used to calculate daily emissions from bulldozing, scraping and grading during construction of the Proposed Project:

$$E_i = EF_i \times H_G \quad \text{(Eq. 11)}$$

where:

E_i = Emissions of pollutant i (PM_{10} or $PM_{2.5}$) from bulldozing, scraping and grading [pounds/day]

EF_i = Emission factor for pollutant i from bulldozing, scraping and grading [pounds/hour]

H_G = Daily bulldozing, scraping and grading duration [hours/day]

The following equation (EPA, 1998) was used to calculate the emission factor for fugitive particulate matter emissions from bulldozing, scraping and grading:

$$EF_i = f_i \times 0.75 \times s^{1.5} / M^{1.4} \times (1 - CE / 100) \quad \text{(Eq. 12)}$$

where:

EF_i = Emission factor for fugitive particulate matter emissions from bulldozing, scraping and grading

f_i = Mass fraction of pollutant i (PM_{10} or $PM_{2.5}$) in PM_{10} emissions from bulldozing, scraping and grading

= 1 for PM_{10}

= 0.208 for $PM_{2.5}$ from SCAQMD (2006)

s = Material silt content [weight percent]

= 26.7 percent average of near-surface soil samples from Proposed Substation Site preliminary geotechnical investigation

M = Material moisture content [weight percent]

= 10.6 percent average of near-surface soil samples from Proposed Substation Site preliminary geotechnical investigation

CE = Control efficiency [percent]

= 61 percent from watering three times per day from SCAQMD (2007c)

The emission factor calculations are presented in Table 52 in the attached tables.

The daily hours of bulldozing, scraping and grading were calculated from the construction equipment usage estimates provided in Table 3.5, Construction Equipment and Workforce Estimaes, in Chapter 3, Project Description, of the PEA. Estimated daily volumes of soil handled and storage pile surface areas during construction phases that involve soil handling and temporary storage piles are listed in Table C-3, Estimated Soil Handling and Storage Pile Surface Areas by Construction Phase.

Earthwork fugitive particulate matter emission calculations are provided in Tables 7 through 47 in the attached tables.

Table C-3 Estimated Soil Handling and Storage Pile Surface Areas by Construction Phase

Construction Phase	Type	Daily Amount	Basis[1]
Substation Grading	Soil Dropping	450 CY	40,000 CY total (Table 3.1) over 90 days: 40,000 / 90 = 444
	Storage Piles	0.13 acres	450 CY total in two conical piles 7’ tall x 58’ diameter
Substation Civil	Soil Dropping	8 CY	450 CY total (Table 3.1) over 60 days: 450 / 60 = 7.5
Distribution Civil	Soil Dropping	50 CY	450 CY total (Table 3.1) over 9 days: 450 / 9 = 50
Subtransmission ROW Clearing	Soil Handling	200 CY	Clearing 10,800’ long x 14’ wide x 6” depth (Section 3.2.3.2) over 14 days: 10,800 x 14 x 0.5 / 27 / 14 = 200
Subtransmission Roads and Landings	Soil Handling	2,800	Cut and fill 8 acres (Table 3.4) x 18” depth (Section 3.2.3.2) over 14 days: 8 x 43,560 x 1.5 / 27 x 2 / 14 = 2,766
	Storage Piles	0.6 acres	8 acres (Table 3.4) over 14 days: 8 / 14 = 0.57
Subtransmission TSP	Soil	75 CY	Excavate 8’ diameter x 40’ deep (Table 3.2)

Construction Phase	Type	Daily Amount	Basis[1]
Foundations Installation	handling		per day = π x 8^2 / 4 x 40 / 27 = 74.5
Subtransmission Wood Pole Installation	Soil Handling	12 CY	Excavate 73 poles, 3' diameter x 11' deep (Table 3.2) over 19 days: 73 x π x 3^2 / 4 x 11 / 27 / 19 = 11.1
Telecommunications Underground Facility	Soil Handling	34 CY	Excavate duct banks, 3,950' long (Table 3.4) x 1.5' wide x 3' deep (Section 3.2.4) plus pull boxes and manholes, two 3' x 5' x 3' and three 4' x 4' x 5' (Section 3.2.4) over 20 days: (3,950 x 1.5 x 3 + 2 x 3 x 5 x 3 + 3 x 4 x 4 x 5) / 27 / 20 = 33.5
Model Pole Top Substation Decommissioning Civil	Soil Handling	130 CY	Excavate total of 260 CY over 2 days
	Storage Pile	0.04 acres	130 CY in one conical pile 7' tall x 22' diameter

Note:
CY = cubic yards; hr/day = hours per day; ROW = rights-of-way; TSP = Tubular Steel Poles; ' = feet; " = inches
[1] Table and section numbers refer to PEA Chapter 3, Project Description

2.6 Asphaltic Paving VOC Emission Calculations

Asphaltic paving generates VOC emissions as the asphalt cures. The following equation was used to calculate daily VOC emissions from asphaltic paving:

$$E = EF \times A_P \quad \text{(Eq. 13)}$$

where:

E = VOC emissions from asphaltic paving [pounds/day]

EF = Emission factor for VOC from asphaltic paving [pounds/acre]

= 2.62 pounds/acre from URBEMIS 2007 User's Guide, Appendix A (URBEMIS, 2007)

A_P =Area paved [acres/day]

The maximum surface area paved in a single day would be 11,200 square feet (0.26 acres) for the Proposed Substation external driveway (see PEA Chapter 3, Project Description, Table 3.1, Substation Ground Improvements and Material Volumes). VOC emissions from asphaltic paving are calculated in Table 17 in the attached tables.

2.7 Equipment SF_6 Leakage GHG Emission Calculations

New circuit breakers installed at the Proposed Substation would be insulated with SF_6, which is a GHG. Leakage of SF_6 from the circuit breakers during operation of the Proposed Project would generate GHG emissions. The following equation was used to calculate GHG emissions from SF_6 leakage:

$$E = L / 100 \times M_{SF6} \times 23{,}200 \times 4.536 \times 10^{-4} \quad \text{(Eq. 14)}$$

where:

E = GHG emissions from SF_6 leakage [metric tons CO_2 equivalent/year]

L = SF_6 leakage rate [percent/year]

= 0.5 percent/year estimated by SCE

M_{SF6} = SF_6 in new circuit breakers [pounds]

= 378 pounds, estimated by SCE

23,200 = SF_6 global warming potential

4.536×10^{-4} = Metric tons/pound conversion factor

GHG emissions from SF_6 leakage are calculated in Table 47 in the attached tables.

3.0 PEAK DAILY EMISSIONS CALCULATIONS

Peak daily emissions of VOC, CO, NOx, SOx, PM_{10} and $PM_{2.5}$ during construction and operation of the Proposed Project were calculated for comparison with the SCAQMD's CEQA mass emissions CEQA significance thresholds.

2.1 Peak Daily Construction Emission Calculations

The following steps were used to estimate peak daily emissions during construction of the Proposed Project:

- Daily emissions during each of the construction phases in Table 3.5, Construction Equipment and Workforce Estimates, in Chapter 3, Project Description, of the PEA were calculated using the procedures in Section 2, Emission Calculations. The calculations are provided in Tables 7 through 46 in the attached tables, and total daily emissions for each construction phase are listed in Table 1 in the attached tables.

- The maximum daily emissions that may occur during construction of each component of the Proposed Project (Substation, distribution facilities, Subtransmission Source Lines and telecommunication facilities and during demolition of the Nuevo Substation and the Model Pole Top Substation) were estimated as follows:

- Daily emissions during the construction phases for each component of the Proposed Project that may overlap were added together to estimate daily emissions during overlapping construction phases. Construction phases that may overlap are listed in Table C-4, Possible Overlapping Construction Phases.

- The highest daily emissions among the overlapping and non-overlapping construction phases for each component of the Proposed Project were then determined.

- Construction of the Proposed Substation, distribution facilities, Subtransmission Source Lines and telecommunication facilities may all occur at the same time. Therefore, maximum daily emissions during simultaneous construction of these project components were estimated by adding together the maximum daily emissions during construction of the individual components estimated in the previous step.

- Demolition of the Nuevo and Model Pole Top substations may occur at the same time but would not commence until construction of the other Proposed Project components is completed. Therefore, the maximum daily emissions during the demolition activities for the two substations were added together to estimate maximum daily emissions during demolition.

- Peak daily construction emissions were the higher of the maximum daily emissions during construction of the new Proposed Project components and during demolition of the two existing substations.

The peak daily construction emissions calculations are provided in Table 2 in the attached tables.

Table C-4 Possible Overlapping Construction Phases

Project Component	Overlapping Construction Phases
Substation Construction	Grading
	Civil and Fencing
	MEER, Electrical, Wiring, Transformers, Equipment Check, Testing, Asphalting, Landscaping, Irrigation
Distribution Facilities Construction	All Phases
Subtransmission Source Line Construction	All Phases
Telecommunications Construction	Marshalling Yard, Right-of-Way Clearing, Roads and Landing Work
	Marshalling Yard, Tubular Steel Pole Foundations Installation, Steel Pole Haul, Steel Pole Assembly, Steel Pole Erection, Wood Pole Installation
	Marshalling Yard, Steel Pole Erection, Wood Pole Installation, Guard Structure Installation

Project Component	Overlapping Construction Phases
	Marshalling Yard, Existing Wood Poles Removal, Guard Structure Installation
	Marshalling Yard, Conductor Installation
	Marshalling Yard, Guard Structure Removal
	Marshalling Yard, Restoration
	Marshalling Yard, Right-of-Way Clearing, Roads and Landing Work
Nuevo Substation Demolition	Civil
	Electrical
	Maintenance Crew Equipment Check
	Testing
Model Pole Top Substation Demolition	Civil
	Electrical

2.2 Peak Daily Operational Emission Calculations

During operation of the Proposed Project, motor vehicle exhaust and entrained paved road particulate matter emissions would be generated by motor vehicle travel for inspections of the Proposed Substation and Subtransmission Source Lines. Emissions from these activities were calculated using the procedures described in Section 2.2, Construction Equipment Exhaust Emission Calculations, and Section 2.3, Motor Vehicle Exhaust Emission Calculations. The calculations of peak daily emissions considered visits to inspect both the Proposed Substation and the Subtransmission Source Lines on the same day, to ensure that emissions were not underestimated. The peak daily operational emission calculations are provided in Table 47 in the attached tables.

4.0 TOTAL GREENHOUSE GAS EMISSION CALCULATIONS

GHG emissions during each construction phase and during operation of the Proposed Project were calculated using the procedures described in Section 2.2, Construction Equipment Exhaust Emission Calculations, Section 2.3, Motor Vehicle Exhaust Emission Calculations, and Section 2.7, Equipment SF_6 Leakage GHG Emission Calculations. The calculations are provided in Tables 7 through 47 in the attached tables. Total GHG emissions during construction and during each construction phase are listed in Table 6 in the attached Tables, and GHG emissions during project operation are in Table 47.

5.0 LOCALIZED IMPACTS ANALYSIS

The SCAQMD (2008b) has developed look-up tables that can be used to evaluate the potential for construction emissions to cause localized exceedances of the ambient air quality CEQA significance thresholds. This localized significance thresholds (LST) analysis consists of comparing maximum daily on-site CO, NOx, PM_{10}, and $PM_{2.5}$

emissions at individual locations with maximum allowable emissions obtained from the look-up tables. The maximum allowable emissions in the tables depend on the location within the South Coast Air Basin, the size (disturbed area) of the construction activities, and the distance from the construction site boundary to the nearest receptor. Receptors for the analysis include residences for PM_{10} and $PM_{2.5}$ and either residences or commercial locations for CO and NOx.

Daily on-site emissions during each construction phase were calculated using the procedures described in Section 2, Emission Calculations, for use in the LST analysis for impacts during construction of the Proposed Project. All construction equipment usage and fugitive particulate matter emissions from earthwork were assumed to occur on-site. On-site motor vehicle travel estimates to calculate on-site vehicle exhaust and entrained particulate matter emissions are listed in Table C-2, Motor Vehicle Daily Vehicle-Miles-Traveled. Daily on-site construction emissions calculations are provided in Tables 7 through 46 in the attached tables, and total daily on-site emissions are listed by construction phase in Table 3 in the attached tables.

Maximum daily on-site emissions that could occur at a single location during construction of each of the components of the Proposed Project were used in the LST analysis. On-site emissions during construction of the Proposed Substation, distribution facilities and telecommunication facilities and during demolition of the Nuevo and Model Pole Top substations were assumed to occur at a single location each day. On-site emissions during construction of the Proposed Subtransmission Source Line Route were divided by the number of separate locations at which construction activities for that phase of construction would occur during one day to calculate the emissions used in the analyses. The following information was used for this analysis:

- Guard Structure Installation: 4 structures per day (4 locations)
- Existing Wood Poles Removal: 10 poles per day (10 locations)
- Tubular Steel Pole Foundations Installation: 1 foundation per day (1 location)
- Wood Pole Installation: 4 poles per day (1 location)
- Steel Pole Haul: 4 locations per day (4 locations)
- Steel Pole Assembly: 3 poles per day (3 locations)
- Steel Pole Erection: 3 poles per day (3 locations)
- Conductor Installation: 1 pull, 1 tension and 1 splicing site per day (3 locations)
- Guard Structure Removal: 4 structures per day (4 locations)

Emissions generated during Proposed Subtransmission Source Line Route rights-of-way (ROW) clearing, roads and landing work, and restoration were not included in the analyses, since these emissions would occur over distances of approximately one mile each day, rather than at fixed locations. Daily on-site emissions at a single location for each construction phase and maximum daily on-site emissions during construction of each Proposed Project component are listed in Table 4 in the attached tables.

The SCAQMD look-up tables for the LST analysis list maximum daily allowable on-site emissions that will not cause LSTs to be exceeded for 1-, 2- and 5-acre construction sites and for receptor distances from the boundary of 25, 50, 100, 200 and 500 meters. The values for a 5-acre site were used for the analyses for the Proposed Substation construction, and the values for a 1-acre site were used for construction of the other Proposed Project components. Linear interpolation of the emissions in the look-up tables was used to calculate the maximum allowable emissions corresponding to the actual receptor distances. The analyses are shown in Table 5 in the attached tables.

Emissions during operation of the Proposed Project would be solely from motor vehicle travel to visit the Proposed Substation Site and to inspect the Proposed Subtransmission Source Lines. Since these emissions would not occur at a single location each day, they would not cause the localized significance thresholds to be exceeded.

6.0 REFERENCES

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Table 1
Construction Emissions Summary
Total Daily Criteria Pollutant Emissions by Construction Phase

Phase	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Substation Construction						
Survey	0.19	1.85	0.19	0.00	1.08	0.10
Grading	11.63	52.09	117.60	0.16	33.18	9.46
Fencing	0.65	4.53	3.55	0.01	2.86	0.48
Civil	3.78	26.62	32.41	0.05	5.50	2.00
Substation MEER	0.26	2.30	0.71	0.00	2.10	0.21
Electrical	0.96	41.64	3.94	0.01	1.87	0.37
Wiring	0.27	11.14	0.48	0.00	0.29	0.04
Transformers	0.99	14.35	6.32	0.01	2.64	0.50
Maintenance Crew Equipment Check	0.12	1.14	0.12	0.00	0.86	0.08
Testing	0.11	1.03	0.10	0.00	0.39	0.03
Asphalting	4.82	16.58	28.54	0.04	4.80	1.68
Landscaping	1.96	9.05	15.14	0.02	3.02	0.87
Irrigation	2.15	8.53	5.09	0.01	1.10	0.46
Distribution Construction						
Civil	4.27	16.34	41.78	0.06	2.26	1.47
Electrical	3.43	14.15	26.75	0.04	1.53	0.97
Subtransmission Source Line Construction						
Survey	0.11	1.06	0.11	0.00	1.86	0.18
Marshalling Yard	0.83	3.90	6.35	0.01	0.43	0.21
Right-of-Way Clearing	4.66	18.07	41.67	0.06	40.55	7.27
Roads and Landing Work	10.70	41.75	111.05	0.15	177.53	24.43
Guard Structure Installation	5.29	20.79	46.19	0.07	20.86	3.57
Existing Wood Poles Removal	3.60	14.07	30.02	0.05	11.11	2.12
Tubular Steel Pole Foundations Installation	6.00	24.73	62.29	0.10	76.11	9.56
Wood Pole Installation	2.65	11.54	20.55	0.03	5.20	1.21
Steel Pole Haul	1.26	5.71	10.25	0.01	6.05	0.91
Steel Pole Assembly	1.89	9.29	12.86	0.02	4.93	0.98
Steel Pole Erection	1.89	9.29	12.86	0.02	4.93	0.98
Conductor Installation	5.54	25.36	52.62	0.08	36.36	5.06
Guard Structure Removal	3.62	14.62	32.34	0.04	16.61	2.71
Restoration	5.46	21.03	48.99	0.07	31.32	6.51
Telecommunications Construction						
Control Building Communications Room	0.24	2.27	0.45	0.00	0.26	0.02
Overhead Cable Installation	2.74	12.72	29.52	0.04	66.39	7.38
Underground Facility Installation	1.14	6.33	5.54	0.01	0.80	0.42
Underground Cable Installation	2.95	12.25	28.20	0.05	1.28	0.90
Optical Systems Installation at Other Locations	0.57	5.51	0.56	0.01	0.64	0.04
Nuevo Substation Demolition						
Civil	1.47	8.17	10.40	0.02	0.99	0.67
Electrical	0.80	30.96	4.29	0.01	0.56	0.27
Maintenance Crew Equipment Check	0.11	1.01	0.10	0.00	0.12	0.01
Testing	0.11	1.01	0.10	0.00	0.38	0.03
Model P.T. Substation Demolition						
Civil	1.04	6.00	6.46	0.01	0.73	0.43
Electrical	3.47	14.63	30.57	0.04	1.53	1.42

Notes:
VOC = volatile organic compounds
CO = carbon monoxide
NOX = nitrogen oxides
SOX = sulfur oxides
PM10 = suspended particulate matter measuring less than 10 microns
PM2.5 = suspended particulate matter measuring less than 2.5 micron
lb/day = pounds per day
MEER = mechanical and electrical equipment room

Table 2
Construction Emissions Summary
Total Daily Criteria Pollutant Emissions for Overlapping Construction Phases

Group[a]	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Substation Construction						
Survey	0.19	1.85	0.19	0.00	1.08	0.10
Grading	11.63	52.09	117.60	0.16	33.18	9.46
Civil, Fencing	4.43	31.15	35.96	0.06	8.36	2.48
MEER, Electrical, Wiring, Transformers, Equipment Check, Testing, Asphalting, Landscaping, Irrigation	9.48	97.23	55.35	0.09	15.97	3.80
Maximum	**11.63**	**97.23**	**117.60**	**0.16**	**33.18**	**9.46**
Distribution Construction						
All	7.70	30.49	68.54	0.11	3.79	2.45
Maximum	**7.70**	**30.49**	**68.54**	**0.11**	**3.79**	**2.45**
Subtransmission Source Line Construction						
Marshalling Yard, Survey	0.94	4.95	6.46	0.01	2.29	0.39
Marshalling Yard, Right-of-Way Clearing, Roads and Landing Work	16.19	63.72	159.07	0.22	218.51	31.90
Marshalling Yard, Tubular Steel Pole Foundations Installation, Steel Pole Haul, Steel Pole Assembly, Steel Pole Erection, Wood Pole Installation	14.52	64.47	125.15	0.19	97.65	13.84
Marshalling Yard, Steel Pole Erection, Wood Pole Installation, Guard Structure Installation	10.66	45.52	85.94	0.14	31.42	5.97
Marshalling Yard, Existing Wood Poles Removal, Guard Structure Installation	9.73	38.76	82.56	0.13	32.40	5.90
Marshalling Yard, Conductor Installation	6.38	29.26	58.97	0.09	36.80	5.27
Marshalling Yard, Guard Structure Removal	4.45	18.52	38.70	0.06	17.05	2.92
Marshalling Yard, Restoration	6.30	24.93	55.34	0.08	31.76	6.72
Maximum	**16.19**	**64.47**	**159.07**	**0.22**	**218.51**	**31.90**
Telecommunications Construction						
All	7.40	36.81	63.82	0.11	69.11	8.74
Maximum	**7.40**	**36.81**	**63.82**	**0.11**	**69.11**	**8.74**
CONSTRUCTION MAXIMUM DAILY[b]	**42.91**	**229.00**	**409.03**	**0.59**	**324.60**	**52.55**
Nuevo Substation Demolition						
Civil	1.47	8.17	10.40	0.02	0.99	0.67
Electrical	0.80	30.96	4.29	0.01	0.56	0.27
Maintenance Crew Equipment Check	0.11	1.01	0.10	0.00	0.12	0.01
Testing	0.11	1.01	0.10	0.00	0.38	0.03
Maximum	**1.47**	**30.96**	**10.40**	**0.02**	**0.99**	**0.67**
Model P.T. Substation Demolition						
Civil	1.04	6.00	6.46	0.01	0.73	0.43
Electrical	3.47	14.63	30.57	0.04	1.53	1.42
Maximum	**3.47**	**14.63**	**30.57**	**0.04**	**1.53**	**1.42**
DEMOLITION MAXIMUM DAILY[c]	**3.47**	**30.96**	**30.57**	**0.04**	**1.53**	**1.42**
PEAK DAILY[d]	**42.91**	**229.00**	**409.03**	**0.59**	**324.60**	**52.55**

[a] The construction phases within a group could all occur at the same time.

[b] Construction maximum daily emissions are the sum of the maximum daily emissions during construction of the substation, the distribution facilities, the subtransmission source lines and the telecommunications facilities, since construction of all of these components could occur at the same time.

[c] Demolition maximum daily emissions are the maximum daily emissions during demolition of the Nuevo Substation or the Model P.T. Substation.

[d] Peak daily emissions are the greater of the maximum daily emissions during construction and during demolition, since demolition would occur after construction is completed.

Table 3
Construction Emissions Summary
Onsite Daily Criteria Pollutant Emissions by Construction Phase

Phase	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Substation Construction						
Survey	0.00	0.02	0.00	0.00	0.87	0.09
Grading	4.04	17.30	33.07	0.04	26.13	5.90
Fencing	0.39	2.26	2.88	0.00	2.61	0.45
Civil	1.90	16.30	14.92	0.02	4.14	1.25
Substation MEER	0.00	0.03	0.03	0.00	1.85	0.19
Electrical	0.46	36.83	3.45	0.00	1.31	0.34
Wiring	0.03	8.84	0.24	0.00	0.03	0.02
Transformers	0.68	11.38	6.02	0.01	2.29	0.48
Maintenance Crew Equipment Check	0.00	0.01	0.00	0.00	0.73	0.07
Testing	0.00	0.00	0.00	0.00	0.27	0.03
Asphalting	2.99	7.49	9.69	0.01	3.08	0.89
Landscaping	0.61	2.00	1.87	0.00	1.73	0.31
Irrigation	1.80	5.21	4.75	0.01	0.71	0.43
Distribution Construction						
Civil	2.99	9.44	29.38	0.04	1.08	0.96
Electrical	2.86	9.51	24.58	0.03	0.95	0.88
Subtransmission Source Line Construction						
Survey	0.00	0.00	0.00	0.00	0.00	0.00
Marshalling Yard	0.64	2.06	6.17	0.01	0.22	0.20
Right-of-Way Clearing	4.21	14.78	38.96	0.05	23.22	5.46
Roads and Landing Work	5.45	18.42	50.75	0.07	37.97	8.42
Guard Structure Installation	4.74	16.75	43.06	0.07	1.71	1.58
Existing Wood Poles Removal	3.19	10.67	28.32	0.04	1.18	1.09
Tubular Steel Pole Foundations Installation	2.91	10.27	28.44	0.05	1.09	0.92
Wood Pole Installation	2.19	7.31	19.55	0.02	0.86	0.78
Steel Pole Haul	0.98	3.41	9.20	0.01	0.34	0.32
Steel Pole Assembly	1.43	5.06	11.86	0.01	0.59	0.54
Steel Pole Erection	1.43	5.06	11.86	0.01	0.59	0.54
Conductor Installation	4.23	15.33	45.87	0.06	1.53	1.41
Guard Structure Removal	3.11	10.75	29.77	0.04	1.20	1.10
Restoration	5.01	17.22	47.39	0.06	22.28	5.57
Telecommunications Construction						
Control Building Communications Room	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Cable Installation	2.26	8.67	27.79	0.04	0.86	0.79
Underground Facility Installation	0.84	3.53	5.17	0.01	0.47	0.40
Underground Cable Installation	2.65	9.44	27.82	0.04	0.95	0.87
Optical Systems Installation at Other Locations	0.00	0.00	0.00	0.00	0.00	0.00
Nuevo Substation Demolition						
Civil	0.91	4.55	6.14	0.01	0.52	0.48
Electrical	0.54	28.48	4.04	0.00	0.27	0.25
Maintenance Crew Equipment Check	0.00	0.00	0.00	0.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.27	0.03
Model P.T. Substation Demolition						
Civil	0.61	2.87	3.99	0.00	0.35	0.32
Electrical	3.07	11.22	29.09	0.04	1.16	1.07

Table 4
Construction Emissions Summary
Total Daily Onsite Criteria Pollutant Emissions for Overlapping Construction Phases

Group[a]	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Substation Construction						
Survey	0.00	0.02	0.00	0.00	0.87	0.09
Grading	4.04	17.30	33.07	0.04	26.13	5.90
Civil, Fencing	2.30	18.56	17.80	0.02	6.75	1.70
MEER, Electrical, Wiring, Transformers, Equipment Check, Testing, Asphalting, Landscaping, Irrigation	6.58	71.79	26.06	0.03	11.99	2.75
Maximum Substation Construction	**6.58**	**71.79**	**33.07**	**0.04**	**26.13**	**5.90**
Distribution Construction						
Civil	2.99	9.44	29.38	0.04	1.08	0.96
Electrical	2.86	9.51	24.58	0.03	0.95	0.88
Maximum	**2.99**	**9.51**	**29.38**	**0.04**	**1.08**	**0.96**
Subtransmission Source Line Construction[b]						
Survey	0.00	0.00	0.00	0.00	0.00	0.00
Marshalling Yard	0.64	2.06	6.17	0.01	0.22	0.20
Guard Structure Installation	1.19	4.19	10.76	0.02	0.43	0.39
Existing Wood Poles Removal	0.32	1.07	2.83	0.00	0.12	0.11
Tubular Steel Pole Foundations Installation	2.91	10.27	28.44	0.05	1.09	0.92
Wood Pole Installation	0.55	1.83	4.89	0.01	0.21	0.19
Steel Pole Haul	0.25	0.85	2.30	0.00	0.09	0.08
Steel Pole Assembly	0.48	1.69	3.95	0.00	0.20	0.18
Steel Pole Erection	0.48	1.69	3.95	0.00	0.20	0.18
Conductor Installation	1.41	5.11	15.29	0.02	0.51	0.47
Guard Structure Removal	0.78	2.69	7.44	0.01	0.30	0.28
Maximum	**2.91**	**10.27**	**28.44**	**0.05**	**1.09**	**0.92**
Telecommunications Construction						
Control Building Communications Room	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Cable Installation	2.26	8.67	27.79	0.04	0.86	0.79
Underground Facility Installation	0.84	3.53	5.17	0.01	0.47	0.40
Underground Cable Installation	2.65	9.44	27.82	0.04	0.95	0.87
Optical Systems Installation at Other Locations	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	**2.65**	**9.44**	**27.82**	**0.04**	**0.95**	**0.87**
Nuevo Substation Demolition						
Civil	0.91	4.55	6.14	0.01	0.52	0.48
Electrical	0.54	28.48	4.04	0.00	0.27	0.25
Maintenance Crew Equipment Check	0.00	0.00	0.00	0.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.27	0.03
Maximum	**0.91**	**28.48**	**6.14**	**0.01**	**0.52**	**0.48**
Model P.T. Substation Demolition						
Civil	0.61	2.87	3.99	0.00	0.35	0.32
Electrical	3.07	11.22	29.09	0.04	1.16	1.07
Maximum	**3.07**	**11.22**	**29.09**	**0.04**	**1.16**	**1.07**

[a] The construction phases within a group could all occur at the same time at the same location.

The following Subtransmission Source Line construction activity emissions were divided by the following number of working locations per day:

Guard Structure Installation: 4 structures per day

Existing Wood Poles Removal: 10 poles per day

Tubular Steel Pole Foundations Installation: 1 foundation per day

Wood Pole Installation: 4 poles per day

Steel Pole Haul: 4 locations per day

Steel Pole Assembly: 3 poles per day

Steel Pole Erection: 3 poles per day

Conductor Installation: 1 pull, 1 tension and 1 splicing site per day

Guard Structure Removal: 4 structures per day

[b] Right-of-way clearing, roads and landing work, and restoration were excluded from the LST analysis because these activities would occur over a distance of approximately 1 mile along the Proposed Subtransmission Source Line Route, instead of at a single location, each day.

Table 5
Construction Emissions
Localized Significance Threshold Analysis

Pollutant	Daily Onsite Emissions (lb/day)	Receptor Distance (m)	Allowable Emissions Interpolation[a]					
			Distance 1 (m)	Emissions 1 (lb/day)	Distance 2 (m)	Emissions 2 (lb/day)	Interpolated Emissions (lb/day)[b]	Allowable Exceeded?
Substation Construction[c]								
CO	72	40	25	1,577	50	2,178	1,938	No
NOx	33	40	25	270	50	302	289	No
PM10	26	40	25	13	50	40	29	No
PM2.5	6	40	25	8	50	10	9	No
Distribution Construction[d]								
CO	10	40	25	602	50	887	773	No
NOx	29	40	25	118	50	148	136	No
PM10	1	40	25	4	50	12	9	No
PM2.5	1	40	25	3	50	4	4	No
Subtransmission Source Line Construction[d]								
CO	10	25	25	602	50	887	602	No
NOx	28	25	25	118	50	148	118	No
PM10	1	25	25	4	50	12	4	No
PM2.5	1	25	25	3	50	4	3	No
Telecommunications Construction[d]								
CO	9	40	25	602	50	887	773	No
NOx	28	40	25	118	50	148	136	No
PM10	1	40	25	4	50	12	9	No
PM2.5	1	40	25	3	50	4	4	No
Nuevo Substation Demolition[d]								
CO	28	60	50	887	100	1,746	1,059	No
NOx	6	60	50	148	100	212	161	No
PM10	1	60	50	12	100	30	16	No
PM2.5	0	60	50	4	100	8	5	No
Model P.T. Substation Demolition[d]								
CO	11	60	50	887	100	1,746	1,059	No
NOx	29	60	50	148	100	212	161	No
PM10	1	60	50	12	100	30	16	No
PM2.5	1	60	50	4	100	8	5	No

[a] Allowable emissions are from Appendix C to Final Localized Significance Methodology, SCAQMD, revised October 2009, downloaded from http://www.aqmd.gov/ceqa/handbook/LST/LST.html

[b] Interpolated emissions = Emissions 1 + (Receptor distance - Distance 1) x (Emissions 2 - Emissions 1) / (Distance 2 - Distance 1)

[c] Closest receptor is a residence. Allowable emissions are for a 5 acre site

[d] Closest receptor is a residence. Allowable emissions are for a 1 acre site.

Table 6
Construction Emissions Summary
Total Greenhouse Gas Emissions by Construction Phase

Phase	CO2e (MT)
Substation Construction	
Survey	1.21
Grading	652.98
Fencing	3.15
Civil	72.97
Substation MEER	3.16
Electrical	37.09
Wiring	4.41
Transformers	15.09
Maintenance Crew Equipment Check	2.24
Testing	5.38
Asphalting	26.24
Landscaping	16.05
Irrigation	8.62
Distribution Construction	
Civil	41.77
Electrical	76.99
Subtransmission Source Line Construction	
Survey	0.35
Marshalling Yard	171.54
Right-of-Way Clearing	36.21
Roads and Landing Work	96.37
Guard Structure Installation	6.52
Existing Wood Poles Removal	1.97
Tubular Steel Pole Foundations Installation	151.36
Wood Pole Installation	25.67
Steel Pole Haul	3.34
Steel Pole Assembly	5.30
Steel Pole Erection	5.30
Conductor Installation	37.04
Guard Structure Removal	3.93
Restoration	11.95
Telecommunications Construction	
Control Building Communications Room	1.36
Overhead Cable Installation	83.44
Underground Facility Installation	8.77
Underground Cable Installation	12.59
Optical Systems Installation at Other Locations	4.32
Nuevo Substation Demolition	
Civil	3.55
Electrical	2.72
Maintenance Crew Equipment Check	0.13
Testing	0.13
Model P.T. Substation Demolition	
Civil	1.95
Electrical	41.92
Total	**1,685.07**

Table 7
Substation Construction Emissions
Survey

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.87	0.09	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.87**	**0.09**	**0.0**
Offsite Motor Vehicle Exhaust	0.19	1.84	0.19	0.00	0.02	0.01	1.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.19	0.00	
Offsite Total	**0.19**	**1.84**	**0.19**	**0.00**	**0.21**	**0.01**	**1.2**
Total	**0.19**	**1.85**	**0.19**	**0.00**	**1.08**	**0.10**	**1.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]
None		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	10	N/A	1
Offsite				
Survey Truck	2	10	N/A	60
Worker Commute	2	10	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									

Table 7
Substation Construction Emissions
Survey

Survey Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Survey Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Survey Truck	0.00	0.02	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Survey Truck	0.10	0.92	0.09	0.00	0.01	0.01
Worker Commute	0.10	0.92	0.09	0.00	0.01	0.01
Offsite Total	**0.19**	**1.84**	**0.19**	**0.00**	**0.02**	**0.01**
Total	**0.19**	**1.85**	**0.19**	**0.00**	**0.02**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Survey Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Survey Truck	0.6	0.0	0.6
Worker Commute	0.6	0.0	0.6
Offsite Total	**1.2**	**0.0**	**1.2**
Total	**1.2**	**0.0**	**1.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Survey Truck	2	Unpaved	1	0.435	0.043	0.87	0.09
Onsite Total						**0.87**	**0.09**
Offsite							
Survey Truck	2	Paved	60	0.001	0.000	0.10	0.00
Worker Commute	2	Paved	60	0.001	0.000	0.10	0.00
Offsite Total						**0.19**	**0.00**
Total						**1.06**	**0.09**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 8
Substation Construction Emissions
Grading

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	4.02	17.22	32.87	0.04	1.69	1.55	143.3
Onsite Motor Vehicle Exhaust	0.02	0.08	0.20	0.00	0.01	0.01	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	6.86	0.69	
Earthwork Fugitive PM	--	--	--	--	17.57	3.65	
Onsite Total	**4.04**	**17.30**	**33.07**	**0.04**	**26.13**	**5.90**	**144.5**
Offsite Motor Vehicle Exhaust	7.59	34.79	84.52	0.12	4.14	3.56	508.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.91	0.00	
Offsite Total	**7.59**	**34.79**	**84.52**	**0.12**	**7.05**	**3.56**	**508.5**
Total	**11.63**	**52.09**	**117.60**	**0.16**	**33.18**	**9.46**	**653.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Dozer	305	1	90	4
Loader	147	2	90	4
Scraper	267	1	90	3
Grader	110	1	90	3
4x4 Backhoe	79	2	90	2
4x4 Tamper	174	1	90	2

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Dozer	305	0.266	1.022	2.391	0.003	0.094	0.087	259.229	0.024	Crawler Tractors
Loader	147	0.131	0.629	1.013	0.001	0.058	0.054	106.315	0.012	Rubber Tired Loaders
Scraper	267	0.333	1.300	3.016	0.003	0.119	0.110	321.429	0.030	Scrapers
Grader	110	0.135	0.536	0.822	0.001	0.074	0.068	74.965	0.012	Graders
4x4 Backhoe	79	0.076	0.356	0.491	0.001	0.043	0.040	51.728	0.007	Tractors/Loaders/Backhoes
4x4 Tamper	174	0.101	0.588	0.860	0.001	0.047	0.043	106.516	0.009	Other Construction Equipment

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Dozer	1.06	4.09	9.57	0.01	0.38	0.35
Loader	1.05	5.03	8.11	0.01	0.47	0.43
Scraper	1.00	3.90	9.05	0.01	0.36	0.33
Grader	0.40	1.61	2.47	0.00	0.22	0.20
4x4 Backhoe	0.30	1.42	1.96	0.00	0.17	0.16
4x4 Tamper	0.20	1.18	1.72	0.00	0.09	0.09
Total	**4.02**	**17.22**	**32.87**	**0.04**	**1.69**	**1.55**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Dozer	42.3	0.0	42.4
Loader	34.7	0.0	34.8
Scraper	39.4	0.0	39.4
Grader	9.2	0.0	9.2
4x4 Backhoe	17.4	0.0	17.4
4x4 Tamper	0.0	0.0	0.0
Total	**143.0**	**0.0**	**143.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	90	N/A	2
Tool Truck	1	90	N/A	1
Pickup 4x4	1	90	N/A	1
Dump Truck	45	90	N/A	0.1
Offsite				
Water Truck	1	90	N/A	10
Tool Truck	1	90	N/A	14

Table 8
Substation Construction Emissions
Grading

Pickup 4x4	1	90	N/A	14
Dump Truck	45	90	N/A	60
Worker Commute	15	90	N/A	60

[a] Dump trucks based on 40,000 CY import/export over 90 days and 10 CY/truck = 40,000 / 90 / 10 = 44.4

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Tool Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Pickup 4x4	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Tool Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Water Truck	0.01	0.02	0.06	0.00	0.00	0.00
Tool Truck	0.00	0.01	0.00	0.00	0.00	0.00
Pickup 4x4	0.00	0.01	0.00	0.00	0.00	0.00
Dump Truck	0.01	0.05	0.14	0.00	0.01	0.01
Onsite Total	**0.02**	**0.08**	**0.20**	**0.00**	**0.01**	**0.01**
Offsite						
Water Truck	0.03	0.10	0.31	0.00	0.01	0.01
Tool Truck	0.01	0.11	0.01	0.00	0.00	0.00
Pickup 4x4	0.01	0.11	0.01	0.00	0.00	0.00
Dump Truck	6.82	27.58	83.49	0.11	4.04	3.49
Worker Commute	0.72	6.89	0.70	0.01	0.08	0.05
Offsite Total	**7.59**	**34.79**	**84.52**	**0.12**	**4.14**	**3.56**
Total	**7.61**	**34.87**	**84.73**	**0.12**	**4.15**	**3.57**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Water Truck	0.3	0.0	0.3
Tool Truck	0.0	0.0	0.0
Pickup 4x4	0.0	0.0	0.0
Dump Truck	0.8	0.0	0.8
Onsite Total	**1.2**	**0.0**	**1.2**
Offsite			
Water Truck	1.7	0.0	1.7
Tool Truck	0.6	0.0	0.6
Pickup 4x4	0.6	0.0	0.6
Dump Truck	464.7	0.0	465.0
Worker Commute	40.5	0.0	40.5
Offsite Total	**508.1**	**0.0**	**508.5**
Total	**509.4**	**0.0**	**509.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Water Truck	1	Unpaved	2	0.922	0.092	1.84	0.18
Tool Truck	1	Unpaved	1	0.435	0.043	0.43	0.04
Pickup 4x4	1	Unpaved	1	0.435	0.043	0.43	0.04
Dump Truck	45	Unpaved	0.1	0.922	0.092	4.15	0.42
Onsite Total						**6.86**	**0.69**
Offsite							
Water Truck	1	Paved	10	0.001	0.000	0.01	0.00
Tool Truck	1	Paved	14	0.001	0.000	0.01	0.00
Pickup 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Dump Truck	45	Paved	60	0.001	0.000	2.16	0.00
Worker Commute	15	Paved	60	0.001	0.000	0.72	0.00
Offsite Total						**2.91**	**0.00**

Table 8
Substation Construction Emissions
Grading

Total						**9.78**	**0.69**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	450	1.62E-03	3.36E-04	0.73	0.15
Bulldozing, Scraping and Grading	hr/day	10	1.481	0.308	14.81	3.08
Storage Pile Wind Erosion[d]	acres	0.13	15.7	3.26	2.04	0.42
Total					**17.57**	**3.65**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Peak daily estimated from total of 40,000 CY over 90 days

[d] Based on 225 CY in each of two cones 7 ft. tall x 58 ft. diameter

Table 9
Substation Construction Emissions
Fencing

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.39	2.22	2.83	0.00	0.23	0.21	1.6
Onsite Motor Vehicle Exhaust	0.01	0.05	0.05	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.38	0.24	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.39**	**2.26**	**2.88**	**0.00**	**2.61**	**0.45**	**1.6**
Offsite Motor Vehicle Exhaust	0.25	2.27	0.67	0.00	0.04	0.03	1.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.21	0.00	
Offsite Total	**0.25**	**2.27**	**0.67**	**0.00**	**0.25**	**0.03**	**1.6**
Total	**0.65**	**4.53**	**3.55**	**0.01**	**2.86**	**0.48**	**3.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bobcat	75	1	10	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Bobcat	75	0.048	0.277	0.354	0.001	0.029	0.026	42.762	0.004	Skid Steer Loaders

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Bobcat	0.39	2.22	2.83	0.00	0.23	0.21
Total	**0.39**	**2.22**	**2.83**	**0.00**	**0.23**	**0.21**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Bobcat	1.6	0.0	1.6
Total	**1.6**	**0.0**	**1.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Flatbed Truck	1	10	N/A	2
Crewcab Truck	1	10	N/A	1
Offsite				
Flatbed Truck	1	10	N/A	14
Crewcab Truck	1	10	N/A	14
Worker Commute	4	10	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Flatbed Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Crewcab Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Offsite									
Flatbed Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Crewcab Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Flatbed Truck	0.00	0.03	0.03	0.00	0.00	0.00

Table 9
Substation Construction Emissions
Fencing

Crewcab Truck	0.00	0.02	0.02	0.00	0.00	0.00
Onsite Total	**0.01**	**0.05**	**0.05**	**0.00**	**0.00**	**0.00**
Offsite						
Flatbed Truck	0.03	0.22	0.24	0.00	0.01	0.01
Crewcab Truck	0.03	0.22	0.24	0.00	0.01	0.01
Worker Commute	0.19	1.84	0.19	0.00	0.02	0.01
Offsite Total	**0.25**	**2.27**	**0.67**	**0.00**	**0.04**	**0.03**
Total	**0.26**	**2.32**	**0.72**	**0.00**	**0.04**	**0.03**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Flatbed Truck	0.0	0.0	0.0
Crewcab Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Flatbed Truck	0.2	0.0	0.2
Crewcab Truck	0.2	0.0	0.2
Worker Commute	1.2	0.0	1.2
Offsite Total	**1.6**	**0.0**	**1.6**
Total	**1.6**	**0.0**	**1.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Flatbed Truck	1	Unpaved	2	0.922	0.092	1.84	0.18
Crewcab Truck	1	Unpaved	1	0.532	0.053	0.53	0.05
Onsite Total						**2.38**	**0.24**
Offsite							
Flatbed Truck	1	Paved	14	0.001	0.000	0.01	0.00
Crewcab Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	4	Paved	60	0.001	0.000	0.19	0.00
Offsite Total						**0.21**	**0.00**
Total						**2.59**	**0.24**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 10
Substation Construction Emissions
Civil

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	1.90	16.26	14.83	0.02	1.02	0.93	47.9
Onsite Motor Vehicle Exhaust	0.01	0.04	0.09	0.00	0.00	0.00	0.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.11	0.31	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**1.90**	**16.30**	**14.92**	**0.02**	**4.14**	**1.25**	**48.2**
Offsite Motor Vehicle Exhaust	1.88	10.32	17.48	0.03	0.88	0.75	24.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.48	0.00	
Offsite Total	**1.88**	**10.32**	**17.48**	**0.03**	**1.36**	**0.75**	**24.7**
Total	**3.78**	**26.62**	**32.41**	**0.05**	**5.50**	**2.00**	**73.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Excavator	152	1	60	4
Foundation Auger	79	1	60	5
Backhoe	79	2	60	3
Skip Loader	75	1	60	3
Bobcat Skid Steer	75	2	60	3
Forklift	83	1	60	4
17-Ton Crane	125	1	45	2

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Excavator	152	0.129	0.668	0.961	0.001	0.057	0.052	112.222	0.012	Excavators
Foundation Auger	79	0.051	0.472	0.503	0.001	0.033	0.030	77.122	0.005	Bore/Drill Rigs
Backhoe	79	0.076	0.356	0.491	0.001	0.043	0.040	51.728	0.007	Tractors/Loaders/Backhoes
Skip Loader	75	0.048	0.277	0.354	0.001	0.029	0.026	42.762	0.004	Skid Steer Loaders
Bobcat Skid Steer	75	0.048	0.277	0.354	0.001	0.029	0.026	42.762	0.004	Skid Steer Loaders
Forklift	83	0.004	1.408	0.172	0.000	0.003	0.003	31.235	0.033	Forklifts-Propane
17-Ton Crane	125	0.109	0.484	0.826	0.001	0.048	0.044	80.345	0.010	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Excavator	0.52	2.67	3.85	0.01	0.23	0.21
Foundation Auger	0.26	2.36	2.51	0.00	0.16	0.15
Backhoe	0.46	2.13	2.95	0.00	0.26	0.24
Skip Loader	0.14	0.83	1.06	0.00	0.09	0.08
Bobcat Skid Steer	0.29	1.66	2.12	0.00	0.17	0.16
Forklift	0.02	5.63	0.69	0.00	0.01	0.01
17-Ton Crane	0.22	0.97	1.65	0.00	0.10	0.09
Total	**1.90**	**16.26**	**14.83**	**0.02**	**1.02**	**0.93**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Excavator	12.2	0.0	12.2
Foundation Auger	10.5	0.0	10.5
Backhoe	8.4	0.0	8.5
Skip Loader	3.5	0.0	3.5
Bobcat Skid Steer	13.1	0.0	13.2
Forklift	0.0	0.0	0.0
17-Ton Crane	0.0	0.0	0.0
Total	**47.8**	**0.0**	**47.9**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	60	N/A	1

Table 10
Substation Construction Emissions
Civil

Water Truck	1	60	N/A	1
Tool Truck	1	60	N/A	1
Concrete Truck	9	5	N/A	0.1
Offsite				
Water Truck	1	60	N/A	10
Concrete Truck	9	5	N/A	60
Tool Truck	1	60	N/A	14
Worker Commute	10	60	N/A	60

[a] Concrete trucks based on 445 CY over 5 days and 10 CY/truck = 445 / 5 / 10 = 8.9

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Tool Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Concrete Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Concrete Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Tool Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Dump Truck	0.00	0.01	0.03	0.00	0.00	0.00
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00
Tool Truck	0.00	0.01	0.03	0.00	0.00	0.00
Concrete Truck	0.00	0.01	0.00	0.00	0.00	0.00
Onsite Total	**0.01**	**0.04**	**0.09**	**0.00**	**0.00**	**0.00**
Offsite						
Water Truck	0.03	0.10	0.31	0.00	0.01	0.01
Concrete Truck	1.36	5.52	16.70	0.02	0.81	0.70
Tool Truck	0.01	0.11	0.01	0.00	0.00	0.00
Worker Commute	0.48	4.59	0.47	0.01	0.05	0.03
Offsite Total	**1.88**	**10.32**	**17.48**	**0.03**	**0.88**	**0.75**
Total	**1.89**	**10.36**	**17.58**	**0.03**	**0.88**	**0.75**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Dump Truck	0.1	0.0	0.1
Water Truck	0.1	0.0	0.1
Tool Truck	0.1	0.0	0.1
Concrete Truck	0.0	0.0	0.0
Onsite Total	**0.3**	**0.0**	**0.3**
Offsite			
Water Truck	1.1	0.0	1.1
Concrete Truck	5.2	0.0	5.2
Tool Truck	0.4	0.0	0.4
Worker Commute	18.0	0.0	18.0
Offsite Total	**24.7**	**0.0**	**24.7**
Total	**25.1**	**0.0**	**25.1**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Dump Truck	1	Unpaved	1	0.922	0.092	0.92	0.09
Water Truck	1	Unpaved	1	0.922	0.092	0.92	0.09
Tool Truck	1	Unpaved	1	0.435	0.043	0.43	0.04
Concrete Truck	9	Unpaved	0.1	0.922	0.092	0.83	0.08
Onsite Total						**3.11**	**0.31**
Offsite							
Water Truck	1	Paved	10	0.001	0.000	0.01	0.00

Table 10
Substation Construction Emissions
Civil

Concrete Truck	9	Paved	60	0.001	0.000	0.43	0.00
Tool Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	10	Paved	60	0.001	0.000	0.48	0.00
Offsite Total						**0.48**	**0.00**
Total						**3.59**	**0.31**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	8	1.62E-03	3.36E-04	0.01	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.01**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Peak daily estimated from total of 450 CY over 60 days

Table 11
Substation Construction Emissions
Substation MEER

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.03	0.03	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.84	0.18	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.03**	**0.03**	**0.00**	**1.85**	**0.19**	**0.1**
Offsite Motor Vehicle Exhaust	0.25	2.27	0.67	0.00	0.04	0.03	3.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.21	0.00	
Offsite Total	**0.25**	**2.27**	**0.67**	**0.00**	**0.25**	**0.03**	**3.1**
Total	**0.26**	**2.30**	**0.71**	**0.00**	**2.10**	**0.21**	**3.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]
None		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	20	N/A	1
Stake Truck	1	20	N/A	1
Offsite				
Carry-all Truck	1	20	N/A	14
Stake Truck	1	20	N/A	14
Worker Commute	4	20	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]

Table 11
Substation Construction Emissions
Substation MEER

Onsite									
Carry-all Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Stake Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Offsite									
Carry-all Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Stake Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Carry-all Truck	0.00	0.02	0.02	0.00	0.00	0.00
Stake Truck	0.00	0.02	0.02	0.00	0.00	0.00
Onsite Total	**0.00**	**0.03**	**0.03**	**0.00**	**0.00**	**0.00**
Offsite						
Carry-all Truck	0.03	0.22	0.24	0.00	0.01	0.01
Stake Truck	0.03	0.22	0.24	0.00	0.01	0.01
Worker Commute	0.19	1.84	0.19	0.00	0.02	0.01
Offsite Total	**0.25**	**2.27**	**0.67**	**0.00**	**0.04**	**0.03**
Total	**0.26**	**2.30**	**0.71**	**0.00**	**0.04**	**0.03**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Carry-all Truck	0.0	0.0	0.0
Stake Truck	0.0	0.0	0.0
Onsite Total	**0.1**	**0.0**	**0.1**
Offsite			
Carry-all Truck	0.4	0.0	0.4
Stake Truck	0.4	0.0	0.4
Worker Commute	2.4	0.0	2.4
Offsite Total	**3.1**	**0.0**	**3.1**
Total	**3.2**	**0.0**	**3.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Carry-all Truck	1	Unpaved	1	0.922	0.092	0.92	0.09
Stake Truck	1	Unpaved	1	0.922	0.092	0.92	0.09
Onsite Total						**1.84**	**0.18**
Offsite							
Carry-all Truck	1	Paved	14	0.001	0.000	0.01	0.00
Stake Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	4	Paved	60	0.001	0.000	0.19	0.00
Offsite Total						**0.21**	**0.00**
Total						**2.06**	**0.18**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Table 11
Substation Construction Emissions
Substation MEER

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 12
Substation Construction Emissions
Electrical

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.46	36.82	3.45	0.00	0.25	0.23	15.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.06	0.11	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.46**	**36.83**	**3.45**	**0.00**	**1.31**	**0.34**	**15.1**
Offsite Motor Vehicle Exhaust	0.50	4.81	0.49	0.01	0.06	0.04	22.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.50	0.00	
Offsite Total	**0.50**	**4.81**	**0.49**	**0.01**	**0.56**	**0.04**	**22.0**
Total	**0.96**	**41.64**	**3.94**	**0.01**	**1.87**	**0.37**	**37.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Scissor Lift	25	2	70	3
Manlift	25	2	70	3
Reach Manlift	25	1	70	4
15-Ton Crane	125	1	70	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Scissor Lift	25	0.008	2.210	0.061	0.000	0.007	0.006	13.000	0.070	Aerial Lifts-Propane
Manlift	25	0.008	2.210	0.061	0.000	0.007	0.006	13.000	0.070	Aerial Lifts-Propane
Reach Manlift	25	0.008	2.210	0.061	0.000	0.007	0.006	13.000	0.070	Aerial Lifts-Propane
15-Ton Crane	125	0.109	0.484	0.826	0.001	0.048	0.044	80.345	0.010	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Scissor Lift	0.05	13.26	0.36	0.00	0.04	0.04
Manlift	0.05	13.26	0.36	0.00	0.04	0.04
Reach Manlift	0.03	8.84	0.24	0.00	0.03	0.02
15-Ton Crane	0.33	1.45	2.48	0.00	0.14	0.13
Total	**0.46**	**36.82**	**3.45**	**0.00**	**0.25**	**0.23**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Scissor Lift	2.5	0.0	2.8
Manlift	2.5	0.0	2.8
Reach Manlift	1.7	0.0	1.8
15-Ton Crane	7.7	0.0	7.7
Total	**14.3**	**0.0**	**15.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	2	70	N/A	1
Offsite				
Crew Truck	2	70	N/A	14
Worker Commute	10	70	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Table 12
Substation Construction Emissions
Electrical

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Crew Truck	0.00	0.02	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.02	0.21	0.02	0.00	0.00	0.00
Worker Commute	0.48	4.59	0.47	0.01	0.05	0.03
Offsite Total	**0.50**	**4.81**	**0.49**	**0.01**	**0.06**	**0.04**
Total	**0.50**	**4.82**	**0.49**	**0.01**	**0.06**	**0.04**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Crew Truck	0.1	0.0	0.1
Onsite Total	**0.1**	**0.0**	**0.1**
Offsite			
Crew Truck	1.0	0.0	1.0
Worker Commute	21.0	0.0	21.0
Offsite Total	**22.0**	**0.0**	**22.0**
Total	**22.0**	**0.0**	**22.1**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Crew Truck	2	Unpaved	1	0.532	0.053	1.06	0.11
Onsite Total						**1.06**	**0.11**
Offsite							
Crew Truck	2	Paved	14	0.001	0.000	0.02	0.00
Worker Commute	10	Paved	60	0.001	0.000	0.48	0.00
Offsite Total						**0.50**	**0.00**
Total						**1.57**	**0.11**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 13
Substation Construction Emissions
Wiring

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.03	8.84	0.24	0.00	0.03	0.02	0.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**8.84**	**0.24**	**0.00**	**0.03**	**0.02**	**0.7**
Offsite Motor Vehicle Exhaust	0.24	2.30	0.23	0.00	0.03	0.02	3.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.24	0.00	
Offsite Total	**0.24**	**2.30**	**0.23**	**0.00**	**0.27**	**0.02**	**3.8**
Total	**0.27**	**11.14**	**0.48**	**0.00**	**0.29**	**0.04**	**4.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift	25	1	25	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Manlift	25	0.008	2.210	0.061	0.000	0.007	0.006	13.000	0.070	Aerial Lifts-Propane

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Manlift	0.03	8.84	0.24	0.00	0.03	0.02
Total	**0.03**	**8.84**	**0.24**	**0.00**	**0.03**	**0.02**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Manlift	0.6	0.0	0.7
Total	**0.6**	**0.0**	**0.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Worker Commute	5	25	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None									
Offsite									
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**0.24**	**2.30**	**0.23**	**0.00**	**0.03**	**0.02**
Total	**0.24**	**2.30**	**0.23**	**0.00**	**0.03**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Table 13
Substation Construction Emissions
Wiring

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Worker Commute	3.7	0.0	3.8
Offsite Total	**3.7**	**0.0**	**3.8**
Total	**3.7**	**0.0**	**3.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None							
Onsite Total						**0.00**	**0.00**
Offsite							
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**0.24**	**0.00**
Total						**0.24**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 14
Substation Construction Emissions
Transformers

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.68	11.35	5.99	0.01	0.30	0.28	9.2
Onsite Motor Vehicle Exhaust	0.00	0.03	0.03	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.99	0.20	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.68**	**11.38**	**6.02**	**0.01**	**2.29**	**0.48**	**9.3**
Offsite Motor Vehicle Exhaust	0.31	2.97	0.30	0.00	0.03	0.02	5.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.31	0.00	
Offsite Total	**0.31**	**2.97**	**0.30**	**0.00**	**0.35**	**0.02**	**5.8**
Total	**0.99**	**14.35**	**6.32**	**0.01**	**2.64**	**0.50**	**15.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Crane	125	1	30	6
Forklift	25	1	30	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Crane	125	0.109	0.484	0.826	0.001	0.048	0.044	80.345	0.010	Cranes
Forklift	83	0.004	1.408	0.172	0.000	0.003	0.003	31.235	0.033	Forklifts-Propane

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Crane	0.65	2.90	4.96	0.01	0.29	0.26
Forklift	0.02	8.45	1.03	0.00	0.02	0.02
Total	**0.68**	**11.35**	**5.99**	**0.01**	**0.30**	**0.28**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Crane	6.6	0.0	6.6
Forklift	2.6	0.0	2.6
Total	**9.1**	**0.0**	**9.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	2	30	N/A	1
Low Bed Truck	1	30	N/A	1
Offsite				
Crew Truck	2	30	N/A	14
Worker Commute	6	30	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Low Bed Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]

Table 14
Substation Construction Emissions
Transformers

Onsite						
Crew Truck	0.00	0.02	0.00	0.00	0.00	0.00
Low Bed Truck	0.00	0.01	0.03	0.00	0.00	0.00
Onsite Total	**0.00**	**0.03**	**0.03**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.02	0.21	0.02	0.00	0.00	0.00
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.31**	**2.97**	**0.30**	**0.00**	**0.03**	**0.02**
Total	**0.31**	**3.00**	**0.33**	**0.00**	**0.04**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Crew Truck	0.0	0.0	0.0
Low Bed Truck	0.1	0.0	0.1
Onsite Total	**0.1**	**0.0**	**0.1**
Offsite			
Crew Truck	0.4	0.0	0.4
Worker Commute	5.4	0.0	5.4
Offsite Total	**5.8**	**0.0**	**5.8**
Total	**5.9**	**0.0**	**5.9**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Crew Truck	2	Unpaved	1	0.532	0.053	1.06	0.11
Low Bed Truck	1	Unpaved	1	0.922	0.092	0.92	0.09
Onsite Total						**1.99**	**0.20**
Offsite							
Crew Truck	2	Paved	14	0.001	0.000	0.02	0.00
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**0.31**	**0.00**
Total						**2.30**	**0.20**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 15
Substation Construction Emissions
Maintenance Crew Equipment Check

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.73	0.07	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.73**	**0.07**	**0.0**
Offsite Motor Vehicle Exhaust	0.12	1.13	0.11	0.00	0.01	0.01	2.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.12	0.00	
Offsite Total	**0.12**	**1.13**	**0.11**	**0.00**	**0.13**	**0.01**	**2.2**
Total	**0.12**	**1.14**	**0.12**	**0.00**	**0.86**	**0.08**	**2.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None										

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Maintenance Truck	2	30	N/A	0.5
Offsite				
Maintenance Truck	2	30	N/A	14
Worker Commute	2	30	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Maintenance Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Maintenance Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Maintenance Truck	0.00	0.01	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Maintenance Truck	0.02	0.21	0.02	0.00	0.00	0.00
Worker Commute	0.10	0.92	0.09	0.00	0.01	0.01

Table 15
Substation Construction Emissions
Maintenance Crew Equipment Check

Offsite Total	**0.12**	**1.13**	**0.11**	**0.00**	**0.01**	**0.01**
Total	**0.12**	**1.14**	**0.12**	**0.00**	**0.01**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Maintenance Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Maintenance Truck	0.4	0.0	0.4
Worker Commute	1.8	0.0	1.8
Offsite Total	**2.2**	**0.0**	**2.2**
Total	**2.2**	**0.0**	**2.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Maintenance Truck	2	Unpaved	0.5	0.726	0.073	0.73	0.07
Onsite Total						**0.73**	**0.07**
Offsite							
Maintenance Truck	2	Paved	14	0.001	0.000	0.02	0.00
Worker Commute	2	Paved	60	0.001	0.000	0.10	0.00
Offsite Total						**0.12**	**0.00**
Total						**0.84**	**0.07**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 16
Substation Construction Emissions
Testing

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.27	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.27**	**0.03**	**0.0**
Offsite Motor Vehicle Exhaust	0.11	1.03	0.10	0.00	0.01	0.01	5.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.11	0.00	
Offsite Total	**0.11**	**1.03**	**0.10**	**0.00**	**0.12**	**0.01**	**5.4**
Total	**0.11**	**1.03**	**0.10**	**0.00**	**0.39**	**0.03**	**5.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None										

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
Crew Truck	1	80	N/A	0.5
Offsite				
Crew Truck	1	80	N/A	14
Worker Commute	2	80	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.01	0.11	0.01	0.00	0.00	0.00
Worker Commute	0.10	0.92	0.09	0.00	0.01	0.01

Table 16
Substation Construction Emissions
Testing

Offsite Total	**0.11**	**1.03**	**0.10**	**0.00**	**0.01**	**0.01**
Total	**0.11**	**1.03**	**0.10**	**0.00**	**0.01**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Crew Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Crew Truck	0.6	0.0	0.6
Worker Commute	4.8	0.0	4.8
Offsite Total	**5.4**	**0.0**	**5.4**
Total	**5.4**	**0.0**	**5.4**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Crew Truck	1	Unpaved	0.5	0.532	0.053	0.27	0.03
Onsite Total						**0.27**	**0.03**
Offsite							
Crew Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	2	Paved	60	0.001	0.000	0.10	0.00
Offsite Total						**0.11**	**0.00**
Total						**0.37**	**0.03**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 17
Substation Construction Emissions
Asphalting

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.30	7.46	9.63	0.01	0.70	0.65	6.0
Onsite Motor Vehicle Exhaust	0.01	0.03	0.06	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.38	0.24	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.7	--	--	--	--	--	--
Onsite Total	**2.99**	**7.49**	**9.69**	**0.01**	**3.08**	**0.89**	**6.1**
Offsite Motor Vehicle Exhaust	1.83	9.10	18.86	0.03	0.93	0.80	20.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.79	0.00	
Offsite Total	**1.83**	**9.10**	**18.86**	**0.03**	**1.72**	**0.80**	**20.1**
Total	**4.82**	**16.58**	**28.54**	**0.04**	**4.80**	**1.68**	**26.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	46	2	15	4
Asphalt Paver	152	1	15	4
Tractor	45	1	15	3
Asphalt Curb Machine	35	1	15	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Paving Roller	46	0.110	0.299	0.268	0.000	0.026	0.024	25.983	0.010	Rollers
Asphalt Paver	152	0.186	0.783	1.449	0.001	0.082	0.075	128.285	0.017	Pavers
Tractor	45	0.101	0.330	0.303	0.000	0.027	0.025	30.347	0.009	Tractors/Loaders/Backhoes
Asphalt Curb Machine	35	0.124	0.312	0.259	0.000	0.028	0.026	23.927	0.011	Paving Equipment

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Paving Roller	0.88	2.40	2.14	0.00	0.21	0.19
Asphalt Paver	0.75	3.13	5.80	0.01	0.33	0.30
Tractor	0.30	0.99	0.91	0.00	0.08	0.07
Asphalt Curb Machine	0.37	0.94	0.78	0.00	0.08	0.08
Total	**2.30**	**7.46**	**9.63**	**0.01**	**0.70**	**0.65**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Paving Roller	1.4	0.0	1.4
Asphalt Paver	3.5	0.0	3.5
Tractor	0.6	0.0	0.6
Asphalt Curb Machine	0.5	0.0	0.5
Total	**6.0**	**0.0**	**6.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[b]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
Stake Truck	1	15	N/A	0.5
Dump Truck	1	15	N/A	0.5
Crew Truck	2	15	N/A	0.5
Asphalt Delivery Truck	4	15	N/A	0.1
Aggregate Base Delivery Truck	6	15	N/A	0.1
Offsite				
Crew Truck	2	15	N/A	14
Asphalt Delivery Truck	4	15	N/A	60
Aggregate Base Delivery Truck	6	15	N/A	60
Worker Commute	6	15	N/A	60

[a] Onsite travel based on 25% use at 10 mph average speed

[b] Asphalt delivery trucks based on 308 CY over 8 days and 10 CY/truck = 308 / 8 / 10 = 3.9

Table 17
Substation Construction Emissions
Asphalting

Aggregate base delivery trucks based on 370 CY over 7 days and 10 CY/truck = 370 / 7 / 10 = 5.3

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Stake Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Asphalt Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Aggregate Base Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Asphalt Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Aggregate Base Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Stake Truck	0.00	0.01	0.02	0.00	0.00	0.00
Dump Truck	0.00	0.01	0.02	0.00	0.00	0.00
Crew Truck	0.00	0.01	0.00	0.00	0.00	0.00
Asphalt Delivery Truck	0.00	0.00	0.01	0.00	0.00	0.00
Aggregate Base Delivery Truck	0.00	0.01	0.02	0.00	0.00	0.00
Onsite Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.02	0.21	0.02	0.00	0.00	0.00
Asphalt Delivery Truck	0.61	2.45	7.42	0.01	0.36	0.31
Aggregate Base Delivery Truck	0.91	3.68	11.13	0.01	0.54	0.47
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**1.83**	**9.10**	**18.86**	**0.03**	**0.93**	**0.80**
Total	**1.83**	**9.13**	**18.92**	**0.03**	**0.94**	**0.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Stake Truck	0.0	0.0	0.0
Dump Truck	0.0	0.0	0.0
Crew Truck	0.0	0.0	0.0
Asphalt Delivery Truck	0.0	0.0	0.0
Aggregate Base Delivery Truck	0.0	0.0	0.0
Onsite Total	**0.1**	**0.0**	**0.1**
Offsite			
Crew Truck	0.2	0.0	0.2
Asphalt Delivery Truck	6.9	0.0	6.9
Aggregate Base Delivery Truck	10.3	0.0	10.3
Worker Commute	2.7	0.0	2.7
Offsite Total	**20.1**	**0.0**	**20.1**
Total	**20.2**	**0.0**	**20.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Stake Truck	1	Unpaved	0.5	0.922	0.092	0.46	0.05
Dump Truck	1	Unpaved	0.5	0.922	0.092	0.46	0.05
Crew Truck	2	Unpaved	0.5	0.532	0.053	0.53	0.05
Asphalt Delivery Truck	4	Unpaved	0.1	0.922	0.092	0.37	0.04
Aggregate Base Delivery Truck	6	Unpaved	0.1	0.922	0.092	0.55	0.06
Onsite Total						**2.38**	**0.24**
Offsite							
Crew Truck	2	Paved	14	0.001	0.000	0.02	0.00
Asphalt Delivery Truck	4	Paved	60	0.001	0.000	0.19	0.00
Aggregate Base Delivery Truck	6	Paved	60	0.001	0.000	0.29	0.00
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**0.79**	**0.00**

Table 17
Substation Construction Emissions
Asphalting

Total						**3.17**	**0.24**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.26	2.62	0.7

[a] Assumed 11,200 sq. ft. external driveway paved in one day

[b] From URBEMISS 2007 User's Guide, Appendix A,
http://www.urbemis.com/software/download.html

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 18
Substation Construction Emissions
Landscaping

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.60	1.98	1.82	0.00	0.16	0.15	1.2
Onsite Motor Vehicle Exhaust	0.00	0.02	0.05	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.57	0.16	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.61**	**2.00**	**1.87**	**0.00**	**1.73**	**0.31**	**1.3**
Offsite Motor Vehicle Exhaust	1.35	7.05	13.27	0.02	0.66	0.56	14.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.62	0.00	
Offsite Total	**1.35**	**7.05**	**13.27**	**0.02**	**1.29**	**0.56**	**14.8**
Total	**1.96**	**9.05**	**15.14**	**0.02**	**3.02**	**0.87**	**16.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Tractor	45	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Tractor	45	0.101	0.330	0.303	0.000	0.027	0.025	30.347	0.009	Tractors/Loaders/Backhoes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Tractor	0.60	1.98	1.82	0.00	0.16	0.15
Total	**0.60**	**1.98**	**1.82**	**0.00**	**0.16**	**0.15**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Tractor	1.2	0.0	1.2
Total	**1.2**	**0.0**	**1.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	15	N/A	1
Crushed Rock Delivery Truck	7	15	N/A	0.1
Offsite				
Crushed Rock Delivery Truck	7	15	N/A	60
Worker Commute	6	15	N/A	60

[a] Crushed rock delivery trucks based on 1,050 CY over 15 days and 10 CY/truck = 1,050 / 15 / 10 = 7

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Crushed Rock Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Crushed Rock Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Dump Truck	0.00	0.01	0.03	0.00	0.00	0.00
Crushed Rock Delivery Truck	0.00	0.01	0.02	0.00	0.00	0.00

Table 18
Substation Construction Emissions
Landscaping

Onsite Total	**0.00**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**
Offsite						
Crushed Rock Delivery Truck	1.06	4.29	12.99	0.02	0.63	0.54
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**1.35**	**7.05**	**13.27**	**0.02**	**0.66**	**0.56**
Total	**1.35**	**7.06**	**13.32**	**0.02**	**0.66**	**0.57**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Dump Truck	0.0	0.0	0.0
Crushed Rock Delivery Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Crushed Rock Delivery Truck	12.0	0.0	12.1
Worker Commute	2.7	0.0	2.7
Offsite Total	**14.7**	**0.0**	**14.8**
Total	**14.8**	**0.0**	**14.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Dump Truck	1	Unpaved	1	0.922	0.092	0.92	0.09
Crushed Rock Delivery Truck	7	Unpaved	0.1	0.922	0.092	0.65	0.06
Onsite Total						**1.57**	**0.16**
Offsite							
Crushed Rock Delivery Truck	7	Paved	60	0.001	0.000	0.34	0.00
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**0.62**	**0.00**
Total						**2.19**	**0.16**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 19
Substation Construction Emissions
Irrigation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	1.80	5.21	4.75	0.01	0.44	0.41	4.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.27	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.80**	**5.21**	**4.75**	**0.01**	**0.71**	**0.43**	**4.3**
Offsite Motor Vehicle Exhaust	0.35	3.32	0.34	0.00	0.04	0.02	4.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.00	
Offsite Total	**0.35**	**3.32**	**0.34**	**0.00**	**0.39**	**0.02**	**4.3**
Total	**2.15**	**8.53**	**5.09**	**0.01**	**1.10**	**0.46**	**8.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bobcat	45	1	20	8
Trencher	33	1	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Bobcat	45	0.060	0.233	0.240	0.000	0.018	0.017	25.519	0.005	Skid Steer Loaders
Trencher	33	0.166	0.418	0.354	0.000	0.037	0.034	32.918	0.015	Trenchers

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Bobcat	0.48	1.87	1.92	0.00	0.14	0.13
Trencher	1.32	3.34	2.83	0.00	0.30	0.27
Total	**1.80**	**5.21**	**4.75**	**0.01**	**0.44**	**0.41**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Bobcat	1.9	0.0	1.9
Trencher	2.4	0.0	2.4
Total	**4.2**	**0.0**	**4.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[b]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	20	N/A	0.5
Offsite				
Crew Truck	1	20	N/A	14
Worker Commute	7	20	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00

Table 19
Substation Construction Emissions
Irrigation

Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.01	0.11	0.01	0.00	0.00	0.00
Worker Commute	0.33	3.21	0.33	0.00	0.04	0.02
Offsite Total	**0.35**	**3.32**	**0.34**	**0.00**	**0.04**	**0.02**
Total	**0.35**	**3.33**	**0.34**	**0.00**	**0.04**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Crew Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Crew Truck	0.1	0.0	0.1
Worker Commute	4.2	0.0	4.2
Offsite Total	**4.3**	**0.0**	**4.3**
Total	**4.3**	**0.0**	**4.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Crew Truck	1	Unpaved	0.5	0.532	0.053	0.27	0.03
Onsite Total						**0.27**	**0.03**
Offsite							
Crew Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	7	Paved	60	0.001	0.000	0.34	0.00
Offsite Total						**0.35**	**0.00**
Total						**0.61**	**0.03**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 20
Distribution Construction Emissions
Civil

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.99	9.44	29.38	0.04	1.03	0.94	32.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.06	0.01	
Onsite Total	**2.99**	**9.44**	**29.38**	**0.04**	**1.08**	**0.96**	**32.6**
Offsite Motor Vehicle Exhaust	1.28	6.90	12.40	0.02	0.60	0.52	9.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.58	0.00	
Offsite Total	**1.28**	**6.90**	**12.40**	**0.02**	**1.18**	**0.52**	**9.2**
Total	**4.27**	**16.34**	**41.78**	**0.06**	**2.26**	**1.47**	**41.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe	350	1	18	8
Roller	250	1	18	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Backhoe	350	0.239	0.771	2.262	0.004	0.078	0.072	344.854	0.022	Tractors/Loaders/Backhoes
Roller	250	0.135	0.408	1.410	0.002	0.050	0.046	153.090	0.012	Rollers

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Backhoe	1.91	6.17	18.10	0.03	0.63	0.58
Roller	1.08	3.27	11.28	0.01	0.40	0.37
Total	**2.99**	**9.44**	**29.38**	**0.04**	**1.03**	**0.94**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Backhoe	22.5	0.0	22.6
Roller	10.0	0.0	10.0
Total	**32.5**	**0.0**	**32.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Dump Truck	4	9	N/A	60
Delivery Truck	1	4	N/A	60
Concrete Truck	2	9	N/A	60
Worker Commute	5	18	N/A	60

[a] Dump truck based on 315 CY over 9 days and 10 CY/truck = 315 / 9 / 10 = 3.5
Concrete trucks based on 100 CY over 9 days and 10 CY/truck = 100 / 9 / 10 = 1.1

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Delivery Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Concrete Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Table 20
Distribution Construction Emissions
Civil

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Dump Truck	0.61	2.45	7.42	0.01	0.36	0.31
Delivery Truck	0.13	0.93	1.04	0.00	0.04	0.03
Concrete Truck	0.30	1.23	3.71	0.00	0.18	0.16
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**1.28**	**6.90**	**12.40**	**0.02**	**0.60**	**0.52**
Total	**1.28**	**6.90**	**12.40**	**0.02**	**0.60**	**0.52**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Dump Truck	4.1	0.0	4.1
Delivery Truck	0.3	0.0	0.3
Concrete Truck	2.1	0.0	2.1
Worker Commute	2.7	0.0	2.7
Offsite Total	**9.2**	**0.0**	**9.2**
Total	**9.2**	**0.0**	**9.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None						0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Dump Truck	4	Paved	60	0.001	0.000	0.19	0.00
Delivery Truck	1	Paved	60	0.001	0.000	0.05	0.00
Concrete Truck	2	Paved	60	0.001	0.000	0.10	0.00
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**0.58**	**0.00**
Total						**0.58**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	35	1.62E-03	3.36E-04	0.06	0.01
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.06**	**0.01**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Based on 315 CY over 9 days

Table 21
Distribution Construction Emissions
Electrical

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.86	9.51	24.58	0.03	0.95	0.88	61.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.86**	**9.51**	**24.58**	**0.03**	**0.95**	**0.88**	**61.8**
Offsite Motor Vehicle Exhaust	0.56	4.64	2.17	0.01	0.13	0.10	15.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.45	0.00	
Offsite Total	**0.56**	**4.64**	**2.17**	**0.01**	**0.58**	**0.10**	**15.2**
Total	**3.43**	**14.15**	**26.75**	**0.04**	**1.53**	**0.97**	**77.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Rodder Truck	35	1	42	8
Cable Dolly	9	1	42	8
Reel Truck	210	1	42	8
Boom Truck	235	1	42	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Rodder Truck	35	0.084	0.274	0.271	0.000	0.023	0.021	27.990	0.008	Other Construction Equipment
Cable Dolly	9	0.012	0.062	0.074	0.000	0.003	0.003	10.107	0.001	Other Construction Equipment
Reel Truck	210	0.152	0.543	1.657	0.002	0.055	0.050	254.238	0.014	Other Construction Equipment
Boom Truck	235	0.110	0.310	1.071	0.001	0.039	0.036	112.159	0.010	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Rodder Truck	0.67	2.19	2.17	0.00	0.18	0.17
Cable Dolly	0.09	0.49	0.59	0.00	0.02	0.02
Reel Truck	1.21	4.34	13.26	0.02	0.44	0.40
Boom Truck	0.88	2.48	8.57	0.01	0.31	0.29
Total	**2.86**	**9.51**	**24.58**	**0.03**	**0.95**	**0.88**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Rodder Truck	4.3	0.0	4.3
Cable Dolly	1.5	0.0	1.5
Reel Truck	38.7	0.0	38.8
Boom Truck	17.1	0.0	17.1
Total	**61.6**	**0.0**	**61.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
Rodder Truck	1	42	N/A	14
Reel Truck	1	42	N/A	14
Line Truck	1	42	N/A	14
Troubleman Truck	1	42	N/A	14
Boom Truck	1	42	N/A	14
Foreman Truck	1	42	N/A	14
Worker Commute	8	42	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]

Table 21
Distribution Construction Emissions
Electrical

Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Rodder Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Reel Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Line Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Troubleman Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Boom Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Foreman Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Rodder Truck	0.04	0.14	0.43	0.00	0.02	0.02
Reel Truck	0.04	0.14	0.43	0.00	0.02	0.02
Line Truck	0.03	0.22	0.24	0.00	0.01	0.01
Troubleman Truck	0.03	0.22	0.24	0.00	0.01	0.01
Boom Truck	0.04	0.14	0.43	0.00	0.02	0.02
Foreman Truck	0.01	0.11	0.01	0.00	0.00	0.00
Worker Commute	0.38	3.67	0.37	0.01	0.04	0.03
Offsite Total	**0.56**	**4.64**	**2.17**	**0.01**	**0.13**	**0.10**
Total	**0.56**	**4.64**	**2.17**	**0.01**	**0.13**	**0.10**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Rodder Truck	1.1	0.0	1.1
Reel Truck	1.1	0.0	1.1
Line Truck	0.7	0.0	0.7
Troubleman Truck	0.7	0.0	0.7
Boom Truck	1.1	0.0	1.1
Foreman Truck	0.3	0.0	0.3
Worker Commute	10.1	0.0	10.1
Offsite Total	**15.2**	**0.0**	**15.2**
Total	**15.2**	**0.0**	**15.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None						0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Rodder Truck	1	Paved	14	0.001	0.000	0.01	0.00
Reel Truck	1	Paved	14	0.001	0.000	0.01	0.00
Line Truck	1	Paved	14	0.001	0.000	0.01	0.00
Troubleman Truck	1	Paved	14	0.001	0.000	0.01	0.00
Boom Truck	1	Paved	14	0.001	0.000	0.01	0.00
Foreman Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	8	Paved	60	0.001	0.000	0.38	0.00
Offsite Total						**0.45**	**0.00**
Total						**0.45**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00

Table 21
Distribution Construction Emissions
Electrical

Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 22
Subtransmission Source Line Construction Emissions Survey

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.11	1.06	0.11	0.00	0.01	0.01	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.85	0.17	
Offsite Total	**0.11**	**1.06**	**0.11**	**0.00**	**1.86**	**0.18**	**0.3**
Total	**0.11**	**1.06**	**0.11**	**0.00**	**1.86**	**0.18**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

[a] From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1/2-Ton Pick-up Truck, 4x4	1	5	N/A	18
Worker Commute	2	5	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
1/2-Ton Pick-up Truck, 4x4	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
1/2-Ton Pick-up Truck, 4x4	0.01	0.14	0.01	0.00	0.00	0.00
Worker Commute	0.10	0.92	0.09	0.00	0.01	0.01
Offsite Total	**0.11**	**1.06**	**0.11**	**0.00**	**0.01**	**0.01**
Total	**0.11**	**1.06**	**0.11**	**0.00**	**0.01**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 22
Subtransmission Source Line Construction Emissions Survey

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
1/2-Ton Pick-up Truck, 4x4	0.0	0.0	0.0
Worker Commute	0.3	0.0	0.3
Offsite Total	**0.3**	**0.0**	**0.3**
Total	**0.3**	**0.0**	**0.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None							
Onsite Total						**0.00**	**0.00**
Offsite							
1/2-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1/2-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
Worker Commute	2	Paved	60	0.001	0.000	0.10	0.00
Offsite Total						**1.85**	**0.17**
Total						**1.85**	**0.17**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 23
Subtransmission Source Line Construction Emissions
Marshalling Yard

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.62	1.96	6.00	0.01	0.21	0.19	123.7
Onsite Motor Vehicle Exhaust	0.02	0.10	0.16	0.00	0.01	0.01	4.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.64**	**2.06**	**6.17**	**0.01**	**0.22**	**0.20**	**127.7**
Offsite Motor Vehicle Exhaust	0.19	1.84	0.19	0.00	0.02	0.01	43.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.19	0.00	
Offsite Total	**0.19**	**1.84**	**0.19**	**0.00**	**0.21**	**0.01**	**43.8**
Total	**0.83**	**3.90**	**6.35**	**0.01**	**0.43**	**0.21**	**171.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30-Ton Crane Truck	300	1	365	2
10,000 lb Rough Terrain Forklift	200	1	365	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
30-Ton Crane Truck	300	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
10,000 lb Rough Terrain Forklift	200	0.059	0.164	0.587	0.001	0.019	0.017	77.122	0.005	Forklifts

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
30-Ton Crane Truck	0.33	1.14	3.07	0.00	0.11	0.11
10,000 lb Rough Terrain Forklift	0.30	0.82	2.94	0.00	0.09	0.09
Total	**0.62**	**1.96**	**6.00**	**0.01**	**0.21**	**0.19**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
30-Ton Crane Truck	59.6	0.0	59.7
10,000 lb Rough Terrain Forklift	63.8	0.0	63.9
Total	**123.5**	**0.0**	**123.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
1-Ton Crew Cab, 4x4	1	365	2	5
Truck, Semi Tractor	1	365	1	2.5
Offsite				
Worker Commute	4	365	N/A	60

[a] Onsite travel based on 25% use at 10 mph average speed

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
1-Ton Crew Cab, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Truck, Semi Tractor	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						

Table 23
Subtransmission Source Line Construction Emissions
Marshalling Yard

1-Ton Crew Cab, 4x4	0.01	0.08	0.09	0.00	0.00	0.00
Truck, Semi Tractor	0.01	0.03	0.08	0.00	0.00	0.00
Onsite Total	**0.02**	**0.10**	**0.16**	**0.00**	**0.01**	**0.01**
Offsite						
Worker Commute	0.19	1.84	0.19	0.00	0.02	0.01
Offsite Total	**0.19**	**1.84**	**0.19**	**0.00**	**0.02**	**0.01**
Total	**0.21**	**1.94**	**0.35**	**0.00**	**0.03**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
1-Ton Crew Cab, 4x4	2.3	0.0	2.3
Truck, Semi Tractor	1.7	0.0	1.7
Onsite Total	**4.0**	**0.0**	**4.0**
Offsite			
Worker Commute	43.8	0.0	43.8
Offsite Total	**43.8**	**0.0**	**43.8**
Total	**47.8**	**0.0**	**47.9**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
1-Ton Crew Cab, 4x4	1	Paved	5	0.001	0.000	0.00	0.00
Truck, Semi Tractor	1	Paved	2.5	0.001	0.000	0.00	0.00
Onsite Total						**0.01**	**0.00**
Offsite							
Worker Commute	4	Paved	60	0.001	0.000	0.19	0.00
Offsite Total						**0.19**	**0.00**
Total						**0.20**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 24
Subtransmission Source Line Construction Emissions
Right-of-Way Clearing

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	4.20	14.74	38.84	0.05	1.44	1.32	31.8
Onsite Motor Vehicle Exhaust	0.01	0.04	0.12	0.00	0.01	0.01	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.69	0.37	
Earthwork Fugitive PM	--	--	--	--	18.09	3.76	
Onsite Total	**4.21**	**14.78**	**38.96**	**0.05**	**23.22**	**5.46**	**31.9**
Offsite Motor Vehicle Exhaust	0.46	3.29	2.71	0.01	0.14	0.12	4.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	17.18	1.69	
Offsite Total	**0.46**	**3.29**	**2.71**	**0.01**	**17.32**	**1.81**	**4.3**
Total	**4.66**	**18.07**	**41.67**	**0.06**	**40.55**	**7.27**	**36.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Road Grader	350	1	14	6
Backhoe/Front Loader	350	1	14	6
Track Type Dozer	350	1	14	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Road Grader	350	0.195	0.664	1.819	0.002	0.067	0.062	229.484	0.018	Graders
Backhoe/Front Loader	350	0.239	0.771	2.262	0.004	0.078	0.072	344.854	0.022	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.266	1.022	2.391	0.003	0.094	0.087	259.229	0.024	Crawler Tractors

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Road Grader	1.17	3.98	10.92	0.01	0.40	0.37
Backhoe/Front Loader	1.43	4.63	13.57	0.02	0.47	0.43
Track Type Dozer	1.60	6.13	14.35	0.02	0.57	0.52
Total	**4.20**	**14.74**	**38.84**	**0.05**	**1.44**	**1.32**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Road Grader	8.7	0.0	8.8
Backhoe/Front Loader	13.1	0.0	13.2
Track Type Dozer	9.9	0.0	9.9
Total	**31.8**	**0.0**	**31.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	4	14	N/A	1
Offsite				
Water Truck	4	14	N/A	13
1-Ton Crew Cab, 4x4	1	14	N/A	18
Lowboy Truck/Trailer	1	14	N/A	18
Worker Commute	5	14	N/A	60

[a] Water trucks based on 16,000 gal water per day and 4,000 gal/truck = 16,000 / 4,000 = 4

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
1-Ton Crew Cab, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Lowboy Truck/Trailer	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

Table 24
Subtransmission Source Line Construction Emissions
Right-of-Way Clearing

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Water Truck	0.01	0.04	0.12	0.00	0.01	0.01
Onsite Total	**0.01**	**0.04**	**0.12**	**0.00**	**0.01**	**0.01**
Offsite						
Water Truck	0.13	0.53	1.61	0.00	0.08	0.07
1-Ton Crew Cab, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Lowboy Truck/Trailer	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**0.46**	**3.29**	**2.71**	**0.01**	**0.14**	**0.12**
Total	**0.47**	**3.33**	**2.83**	**0.01**	**0.15**	**0.12**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Water Truck	0.1	0.0	0.1
Onsite Total	**0.1**	**0.0**	**0.1**
Offsite			
Water Truck	1.4	0.0	1.4
1-Ton Crew Cab, 4x4	0.3	0.0	0.3
Lowboy Truck/Trailer	0.5	0.0	0.5
Worker Commute	2.1	0.0	2.1
Offsite Total	**4.3**	**0.0**	**4.3**
Total	**4.4**	**0.0**	**4.4**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Water Truck	4	Unpaved	1	0.922	0.092	3.69	0.37
Onsite Total						**3.69**	**0.37**
Offsite							
Water Truck	4	Paved	10	0.001	0.000	0.03	0.00
1-Ton Crew Cab, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Lowboy Truck/Trailer	1	Paved	14	0.001	0.000	0.01	0.00
Water Truck	4	Unpaved	3	0.922	0.092	11.07	1.11
1-Ton Crew Cab, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Lowboy Truck/Trailer	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**17.18**	**1.69**
Total						**20.87**	**2.06**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	200	1.62E-03	3.36E-04	0.32	0.07
Bulldozing, Scraping and Grading	hr/day	12	1.481	0.308	17.77	3.70
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**18.09**	**3.76**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Based on clearing 10,800 ft. long x 14' wide x 6" deep = 2,800 CY over 14 days

Table 25
Subtransmission Source Line Construction Emissions
Roads and Landing Work

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	5.43	18.34	50.51	0.07	1.85	1.70	41.7
Onsite Motor Vehicle Exhaust	0.02	0.08	0.25	0.00	0.01	0.01	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	7.38	0.74	
Earthwork Fugitive PM	--	--	--	--	28.73	5.98	
Onsite Total	**5.45**	**18.42**	**50.75**	**0.07**	**37.97**	**8.42**	**41.9**
Offsite Motor Vehicle Exhaust	5.25	23.33	60.30	0.08	2.91	2.51	54.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	136.65	13.49	
Offsite Total	**5.25**	**23.33**	**60.30**	**0.08**	**139.56**	**16.00**	**54.4**
Total	**10.70**	**41.75**	**111.05**	**0.15**	**177.53**	**24.43**	**96.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Road Grader	350	1	14	4
Backhoe/Front Loader	350	1	14	6
Drum Type Compactor	250	1	14	4
Track Type Dozer	350	1	14	6
Excavator	300	1	14	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Road Grader	350	0.195	0.664	1.819	0.002	0.067	0.062	229.484	0.018	Graders
Backhoe/Front Loader	350	0.239	0.771	2.262	0.004	0.078	0.072	344.854	0.022	Tractors/Loaders/Backhoes
Drum Type Compactor	250	0.135	0.408	1.410	0.002	0.050	0.046	153.090	0.012	Rollers
Track Type Dozer	350	0.266	1.022	2.391	0.003	0.094	0.087	259.229	0.024	Crawler Tractors
Excavator	300	0.180	0.549	1.611	0.002	0.057	0.053	233.735	0.016	Excavators

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Road Grader	0.78	2.66	7.28	0.01	0.27	0.25
Backhoe/Front Loader	1.43	4.63	13.57	0.02	0.47	0.43
Drum Type Compactor	0.54	1.63	5.64	0.01	0.20	0.18
Track Type Dozer	1.60	6.13	14.35	0.02	0.57	0.52
Excavator	1.08	3.30	9.67	0.01	0.34	0.32
Total	**5.43**	**18.34**	**50.51**	**0.07**	**1.85**	**1.70**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Road Grader	5.8	0.0	5.8
Backhoe/Front Loader	13.1	0.0	13.2
Drum Type Compactor	3.9	0.0	3.9
Track Type Dozer	9.9	0.0	9.9
Excavator	8.9	0.0	8.9
Total	**41.6**	**0.0**	**41.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	8	14	N/A	1
Offsite				
Water Truck	8	14	N/A	13
1-Ton Crew Cab, 4x4	1	14	N/A	18
Lowboy Truck/Trailer	1	14	N/A	18
Aggregate Base Delivery Truck	29	14	N/A	64
Worker Commute	5	14	N/A	60

[a] Water trucks based on 32,000 gal water per day and 4,000 gal/truck = 32,000 / 4,000 = 8

Table 25
Subtransmission Source Line Construction Emissions
Roads and Landing Work

Aggregate base delivery trucks based on 4,000 CY over 14 days and 10 CY/truck = 4,000 / 14 / 10 = 28.6

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Water Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Lowboy Truck/Trailer	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Aggregate Base Delivery Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Water Truck	0.02	0.08	0.25	0.00	0.01	0.01
Onsite Total	**0.02**	**0.08**	**0.25**	**0.00**	**0.01**	**0.01**
Offsite						
Water Truck	0.23	1.61	1.80	0.00	0.07	0.06
1-Ton Crew Cab, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Lowboy Truck/Trailer	0.05	0.18	0.56	0.00	0.03	0.02
Aggregate Base Delivery Truck	4.69	18.96	57.39	0.08	2.78	2.40
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**5.25**	**23.33**	**60.30**	**0.08**	**2.91**	**2.51**
Total	**5.27**	**23.41**	**60.54**	**0.08**	**2.92**	**2.52**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Water Truck	0.2	0.0	0.2
Onsite Total	**0.2**	**0.0**	**0.2**
Offsite			
Water Truck	1.8	0.0	1.8
1-Ton Crew Cab, 4x4	0.3	0.0	0.3
Lowboy Truck/Trailer	0.5	0.0	0.5
Aggregate Base Delivery Truck	49.7	0.0	49.7
Worker Commute	2.1	0.0	2.1
Offsite Total	**54.4**	**0.0**	**54.4**
Total	**54.6**	**0.0**	**54.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Water Truck	8	Unpaved	1	0.922	0.092	7.38	0.74
Onsite Total						**7.38**	**0.74**
Offsite							
Water Truck	8	Paved	10	0.001	0.000	0.06	0.00
1-Ton Crew Cab, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Lowboy Truck/Trailer	1	Paved	14	0.001	0.000	0.01	0.00
Aggregate Base Delivery Truck	29	Paved	60	0.001	0.000	1.39	0.00
Water Truck	8	Unpaved	3	0.922	0.092	22.13	2.21
1-Ton Crew Cab, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Lowboy Truck/Trailer	1	Unpaved	4	0.922	0.092	3.69	0.37
Aggregate Base Delivery Truck	29	Unpaved	4	0.922	0.092	106.98	10.70
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**136.65**	**13.49**
Total						**144.03**	**14.23**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Table 25
Subtransmission Source Line Construction Emissions
Roads and Landing Work

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	2,800	1.62E-03	3.36E-04	4.52	0.94
Bulldozing, Scraping and Grading	hr/day	10	1.481	0.308	14.81	3.08
Storage Pile Wind Erosion[d]	acres	0.6	15.7	3.26	9.40	1.96
Total					**28.73**	**5.98**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Based on excavating and backfilling 8.0 acres to 1.5' depth over 14 days

[d] Based on 8.0 acres total over 14 days

Table 26
Subtransmission Source Line Construction Emissions
Guard Structure Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	4.74	16.75	43.06	0.07	1.71	1.58	5.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**4.74**	**16.75**	**43.06**	**0.07**	**1.71**	**1.58**	**5.8**
Offsite Motor Vehicle Exhaust	0.55	4.05	3.13	0.01	0.16	0.13	0.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.98	1.86	
Offsite Total	**0.55**	**4.05**	**3.13**	**0.01**	**19.14**	**2.00**	**0.7**
Total	**5.29**	**20.79**	**46.19**	**0.07**	**20.86**	**3.57**	**6.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	2	6
Auger Truck	500	1	2	6
30-Ton Crane Truck	300	1	2	8
80ft. Hydraulic Manlift/Bucket Truck	350	1	2	4
Backhoe/Front Loader	350	1	2	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Compressor Trailer	120	0.089	0.329	0.533	0.001	0.049	0.045	46.950	0.008	Air Compressors
Auger Truck	500	0.135	0.553	1.315	0.003	0.044	0.040	311.309	0.012	Bore/Drill Rigs
30-Ton Crane Truck	300	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
80ft. Hydraulic Manlift/Bucket Truck	350	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
Backhoe/Front Loader	350	0.239	0.771	2.262	0.004	0.078	0.072	344.854	0.022	Tractors/Loaders/Backhoes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Compressor Trailer	0.53	1.97	3.20	0.00	0.30	0.27
Auger Truck	0.81	3.32	7.89	0.02	0.26	0.24
30-Ton Crane Truck	1.31	4.55	12.26	0.01	0.46	0.42
80ft. Hydraulic Manlift/Bucket Truck	0.65	2.28	6.13	0.01	0.23	0.21
Backhoe/Front Loader	1.43	4.63	13.57	0.02	0.47	0.43
Total	**4.74**	**16.75**	**43.06**	**0.07**	**1.71**	**1.58**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Compressor Trailer	0.3	0.0	0.3
Auger Truck	1.7	0.0	1.7
30-Ton Crane Truck	1.3	0.0	1.3
80ft. Hydraulic Manlift/Bucket Truck	0.7	0.0	0.7
Backhoe/Front Loader	1.9	0.0	1.9
Total	**5.8**	**0.0**	**5.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	2	N/A	18
1-Ton Crew Cab Flat Bed, 4x4	1	2	N/A	18
Extendable Flat Bed Pole Truck	1	2	N/A	18
Auger Truck	1	2	N/A	18
30-Ton Crane Truck	1	2	N/A	18
80ft. Hydraulic Manlift/Bucket Truck	1	2	N/A	18
Worker Commute	6	2	N/A	60

Table 26
Subtransmission Source Line Construction Emissions
Guard Structure Installation

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Extendable Flat Bed Pole Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Auger Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
30-Ton Crane Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
80ft. Hydraulic Manlift/Bucket Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Extendable Flat Bed Pole Truck	0.05	0.18	0.56	0.00	0.03	0.02
Auger Truck	0.05	0.18	0.56	0.00	0.03	0.02
30-Ton Crane Truck	0.05	0.18	0.56	0.00	0.03	0.02
80ft. Hydraulic Manlift/Bucket Truck	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.55**	**4.05**	**3.13**	**0.01**	**0.16**	**0.13**
Total	**0.55**	**4.05**	**3.13**	**0.01**	**0.16**	**0.13**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.0	0.0	0.0
1-Ton Crew Cab Flat Bed, 4x4	0.0	0.0	0.0
Extendable Flat Bed Pole Truck	0.1	0.0	0.1
Auger Truck	0.1	0.0	0.1
30-Ton Crane Truck	0.1	0.0	0.1
80ft. Hydraulic Manlift/Bucket Truck	0.1	0.0	0.1
Worker Commute	0.4	0.0	0.4
Offsite Total	**0.7**	**0.0**	**0.7**
Total	**0.7**	**0.0**	**0.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None							
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Extendable Flat Bed Pole Truck	1	Paved	14	0.001	0.000	0.01	0.00
Auger Truck	1	Paved	14	0.001	0.000	0.01	0.00
30-Ton Crane Truck	1	Paved	14	0.001	0.000	0.01	0.00
80ft. Hydraulic Manlift/Bucket Truck	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Extendable Flat Bed Pole Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
Auger Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
30-Ton Crane Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
80ft. Hydraulic Manlift/Bucket Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00

Table 26
Subtransmission Source Line Construction Emissions
Guard Structure Installation

Offsite Total						**18.98**	**1.86**
Total						**18.98**	**1.86**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 27
Subtransmission Source Line Construction Emissions
Existing Wood Poles Removal

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	3.19	10.67	28.32	0.04	1.18	1.09	1.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.19**	**10.67**	**28.32**	**0.04**	**1.18**	**1.09**	**1.7**
Offsite Motor Vehicle Exhaust	0.42	3.40	1.70	0.01	0.10	0.08	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.83	0.95	
Offsite Total	**0.42**	**3.40**	**1.70**	**0.01**	**9.92**	**1.03**	**0.3**
Total	**3.60**	**14.07**	**30.02**	**0.05**	**11.11**	**2.12**	**2.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
10-000 lb. Rough Terrain Forklift	200	1	1	4
30-Ton Crane Truck	300	1	1	6
Compressor Trailer	120	1	1	6
Backhoe/Front Loader	350	1	1	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
10-000 lb. Rough Terrain Forklift	200	0.059	0.164	0.587	0.001	0.019	0.017	77.122	0.005	Forklifts
30-Ton Crane Truck	300	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
Compressor Trailer	120	0.089	0.329	0.533	0.001	0.049	0.045	46.950	0.008	Air Compressors
Backhoe/Front Loader	350	0.239	0.771	2.262	0.004	0.078	0.072	344.854	0.022	Tractors/Loaders/Backhoes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
10-000 lb. Rough Terrain Forklift	0.24	0.66	2.35	0.00	0.07	0.07
30-Ton Crane Truck	0.98	3.41	9.20	0.01	0.34	0.32
Compressor Trailer	0.53	1.97	3.20	0.00	0.30	0.27
Backhoe/Front Loader	1.43	4.63	13.57	0.02	0.47	0.43
Total	**3.19**	**10.67**	**28.32**	**0.04**	**1.18**	**1.09**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
10-000 lb. Rough Terrain Forklift	0.1	0.0	0.1
30-Ton Crane Truck	0.5	0.0	0.5
Compressor Trailer	0.1	0.0	0.1
Backhoe/Front Loader	0.9	0.0	0.9
Total	**1.7**	**0.0**	**1.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	1	N/A	18
Flat Bed Truck/Trailer	1	1	N/A	18
30-Ton Crane Truck	1	1	N/A	18
Worker Commute	6	1	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									

Table 27
Subtransmission Source Line Construction Emissions
Existing Wood Poles Removal

1-Ton Crew Cab, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Flat Bed Truck/Trailer	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
30-Ton Crane Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
1-Ton Crew Cab, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Flat Bed Truck/Trailer	0.05	0.18	0.56	0.00	0.03	0.02
30-Ton Crane Truck	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.42**	**3.40**	**1.70**	**0.01**	**0.10**	**0.08**
Total	**0.42**	**3.40**	**1.70**	**0.01**	**0.10**	**0.08**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
1-Ton Crew Cab, 4x4	0.0	0.0	0.0
Flat Bed Truck/Trailer	0.0	0.0	0.0
30-Ton Crane Truck	0.0	0.0	0.0
Worker Commute	0.2	0.0	0.2
Offsite Total	**0.3**	**0.0**	**0.3**
Total	**0.3**	**0.0**	**0.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None							
Onsite Total						**0.00**	**0.00**
Offsite							
1-Ton Crew Cab, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Flat Bed Truck/Trailer	1	Paved	14	0.001	0.000	0.01	0.00
30-Ton Crane Truck	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Flat Bed Truck/Trailer	1	Unpaved	4	0.922	0.092	3.69	0.37
30-Ton Crane Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**9.83**	**0.95**
Total						**9.83**	**0.95**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 28
Subtransmission Source Line Construction Emissions
Tubular Steel Pole Foundations Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.91	10.27	28.44	0.05	0.97	0.89	73.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.12	0.03	
Onsite Total	**2.91**	**10.27**	**28.44**	**0.05**	**1.09**	**0.92**	**73.6**
Offsite Motor Vehicle Exhaust	3.09	14.46	33.85	0.05	1.66	1.42	77.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	73.36	7.22	
Offsite Total	**3.09**	**14.46**	**33.85**	**0.05**	**75.02**	**8.65**	**77.8**
Total	**6.00**	**24.73**	**62.29**	**0.10**	**76.11**	**9.56**	**151.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30-Ton Crane Truck	300	1	34	5
Backhoe/Front Loader	200	1	34	8
Auger Truck	500	1	34	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
30-Ton Crane Truck	300	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
Backhoe/Front Loader	200	0.126	0.375	1.281	0.002	0.042	0.038	171.737	0.011	Tractors/Loaders/Backhoes
Auger Truck	500	0.135	0.553	1.315	0.003	0.044	0.040	311.309	0.012	Bore/Drill Rigs

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
30-Ton Crane Truck	0.82	2.85	7.66	0.01	0.29	0.26
Backhoe/Front Loader	1.01	3.00	10.25	0.02	0.33	0.31
Auger Truck	1.08	4.42	10.52	0.02	0.35	0.32
Total	**2.91**	**10.27**	**28.44**	**0.05**	**0.97**	**0.89**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
30-Ton Crane Truck	13.9	0.0	13.9
Backhoe/Front Loader	21.2	0.0	21.2
Auger Truck	38.4	0.0	38.4
Total	**73.5**	**0.0**	**73.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Water Truck	1	34	N/A	14
1-Ton Crew Cab Flat Bed, 4x4	1	34	N/A	18
10-cu. yd. Dump Truck	8	34	N/A	64
10-cu. yd. Concrete Mixer Truck	8	34	N/A	64
30-Ton Crane Truck	1	34	N/A	18
Auger Truck	1	34	N/A	18
Worker Commute	7	34	N/A	60

[a] Concrete mixer and dump trucks based on 74.5 CY per foundation and 10 CY/truck = 74.5 / 10 = 7.5

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									

Table 28
Subtransmission Source Line Construction Emissions
Tubular Steel Pole Foundations Installation

Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
10-cu. yd. Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
10-cu. yd. Concrete Mixer Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
30-Ton Crane Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Auger Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Water Truck	0.04	0.14	0.43	0.00	0.02	0.02
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
10-cu. yd. Dump Truck	1.29	5.23	15.83	0.02	0.77	0.66
10-cu. yd. Concrete Mixer Truck	1.29	5.23	15.83	0.02	0.77	0.66
30-Ton Crane Truck	0.05	0.18	0.56	0.00	0.03	0.02
Auger Truck	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.33	3.21	0.33	0.00	0.04	0.02
Offsite Total	**3.09**	**14.46**	**33.85**	**0.05**	**1.66**	**1.42**
Total	**3.09**	**14.46**	**33.85**	**0.05**	**1.66**	**1.42**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Water Truck	0.9	0.0	0.9
1-Ton Crew Cab Flat Bed, 4x4	0.8	0.0	0.8
10-cu. yd. Dump Truck	33.3	0.0	33.3
10-cu. yd. Concrete Mixer Truck	33.3	0.0	33.3
30-Ton Crane Truck	1.2	0.0	1.2
Auger Truck	1.2	0.0	1.2
Worker Commute	7.1	0.0	7.1
Offsite Total	**77.7**	**0.0**	**77.8**
Total	**77.7**	**0.0**	**77.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None							
Onsite Total						**0.00**	**0.00**
Offsite							
Water Truck	1	Paved	10	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
10-cu. yd. Dump Truck	8	Paved	60	0.001	0.000	0.38	0.00
10-cu. yd. Concrete Mixer Truck	8	Paved	60	0.001	0.000	0.38	0.00
30-Ton Crane Truck	1	Paved	14	0.001	0.000	0.01	0.00
Auger Truck	1	Paved	14	0.001	0.000	0.01	0.00
Water Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
10-cu. yd. Dump Truck	8	Unpaved	4	0.922	0.092	29.51	2.95
10-cu. yd. Concrete Mixer Truck	8	Unpaved	4	0.922	0.092	29.51	2.95
30-Ton Crane Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
Auger Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	7	Paved	60	0.001	0.000	0.34	0.00
Offsite Total						**73.36**	**7.22**
Total						**73.36**	**7.22**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Table 28
Subtransmission Source Line Construction Emissions
Tubular Steel Pole Foundations Installation

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	75	1.62E-03	3.36E-04	0.12	0.03
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.12**	**0.03**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Based on excavating 8 ft. diameter x 40 ft. deep per foundation and one foundation per day

Table 29
Subtransmission Source Line Construction Emissions
Wood Pole Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.19	7.31	19.55	0.02	0.84	0.77	20.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**2.19**	**7.31**	**19.55**	**0.02**	**0.86**	**0.78**	**20.3**
Offsite Motor Vehicle Exhaust	0.46	4.23	1.00	0.01	0.07	0.05	5.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.27	0.39	
Offsite Total	**0.46**	**4.23**	**1.00**	**0.01**	**4.34**	**0.43**	**5.4**
Total	**2.65**	**11.54**	**20.55**	**0.03**	**5.20**	**1.21**	**25.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	19	5
80-Ton Rough Terrain Crane	350	1	19	6
Backhoe/Front Loader	200	1	19	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Compressor Trailer	120	0.089	0.329	0.533	0.001	0.049	0.045	46.950	0.008	Air Compressors
80-Ton Rough Terrain Crane	350	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
Backhoe/Front Loader	200	0.126	0.375	1.281	0.002	0.042	0.038	171.737	0.011	Tractors/Loaders/Backhoes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Compressor Trailer	0.45	1.64	2.67	0.00	0.25	0.23
80-Ton Rough Terrain Crane	0.98	3.41	9.20	0.01	0.34	0.32
Backhoe/Front Loader	0.76	2.25	7.69	0.01	0.25	0.23
Total	**2.19**	**7.31**	**19.55**	**0.02**	**0.84**	**0.77**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Compressor Trailer	2.0	0.0	2.0
80-Ton Rough Terrain Crane	9.3	0.0	9.3
Backhoe/Front Loader	8.9	0.0	8.9
Total	**20.2**	**0.0**	**20.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	19	N/A	18
1-Ton Crew Cab Flat Bed, 4x4	1	19	N/A	18
Worker Commute	8	19	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Table 29
Subtransmission Source Line Construction Emissions
Wood Pole Installation

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Worker Commute	0.38	3.67	0.37	0.01	0.04	0.03
Offsite Total	**0.46**	**4.23**	**1.00**	**0.01**	**0.07**	**0.05**
Total	**0.46**	**4.23**	**1.00**	**0.01**	**0.07**	**0.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.4	0.0	0.4
1-Ton Crew Cab Flat Bed, 4x4	0.4	0.0	0.4
Worker Commute	4.6	0.0	4.6
Offsite Total	**5.4**	**0.0**	**5.4**
Total	**5.4**	**0.0**	**5.4**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0						
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Worker Commute	8	Paved	60	0.001	0.000	0.38	0.00
Offsite Total						**4.27**	**0.39**
Total						**4.27**	**0.39**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	12	1.62E-03	3.36E-04	0.02	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.02**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Based on excavating 3 ft. diameter x 11 ft. deep per pole x 4 poles per day

Table 30
Subtransmission Source Line Construction Emissions
Steel Pole Haul

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.98	3.41	9.20	0.01	0.34	0.32	2.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.98**	**3.41**	**9.20**	**0.01**	**0.34**	**0.32**	**2.5**
Offsite Motor Vehicle Exhaust	0.28	2.30	1.05	0.00	0.06	0.05	0.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.64	0.54	
Offsite Total	**0.28**	**2.30**	**1.05**	**0.00**	**5.70**	**0.59**	**0.9**
Total	**1.26**	**5.71**	**10.25**	**0.01**	**6.05**	**0.91**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
80-Ton Rough Terrain Crane	350	1	5	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
80-Ton Rough Terrain Crane	350	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
80-Ton Rough Terrain Crane	0.98	3.41	9.20	0.01	0.34	0.32
Total	**0.98**	**3.41**	**9.20**	**0.01**	**0.34**	**0.32**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
80-Ton Rough Terrain Crane	2.5	0.0	2.5
Total	**2.5**	**0.0**	**2.5**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	5	N/A	18
40' Flat Bed Truck/Trailer	1	5	N/A	18
Worker Commute	4	5	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None									
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
40' Flat Bed Truck/Trailer	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
40' Flat Bed Truck/Trailer	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.19	1.84	0.19	0.00	0.02	0.01

Table 30
Subtransmission Source Line Construction Emissions
Steel Pole Haul

Offsite Total	**0.28**	**2.30**	**1.05**	**0.00**	**0.06**	**0.05**
Total	**0.28**	**2.30**	**1.05**	**0.00**	**0.06**	**0.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.1	0.0	0.1
40' Flat Bed Truck/Trailer	0.2	0.0	0.2
Worker Commute	0.6	0.0	0.6
Offsite Total	**0.9**	**0.0**	**0.9**
Total	**0.9**	**0.0**	**0.9**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0						
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
40' Flat Bed Truck/Trailer	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
40' Flat Bed Truck/Trailer	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	4	Paved	60	0.001	0.000	0.19	0.00
Offsite Total						**5.64**	**0.54**
Total						**5.64**	**0.54**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 31
Subtransmission Source Line Construction Emissions
Steel Pole Assembly

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	1.43	5.06	11.86	0.01	0.59	0.54	3.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.43**	**5.06**	**11.86**	**0.01**	**0.59**	**0.54**	**3.6**
Offsite Motor Vehicle Exhaust	0.46	4.23	1.00	0.01	0.07	0.05	1.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.27	0.39	
Offsite Total	**0.46**	**4.23**	**1.00**	**0.01**	**4.34**	**0.43**	**1.7**
Total	**1.89**	**9.29**	**12.86**	**0.02**	**4.93**	**0.98**	**5.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	6	5
80-Ton Rough Terrain Crane	350	1	6	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Compressor Trailer	120	0.089	0.329	0.533	0.001	0.049	0.045	46.950	0.008	Air Compressors
80-Ton Rough Terrain Crane	350	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Compressor Trailer	0.45	1.64	2.67	0.00	0.25	0.23
80-Ton Rough Terrain Crane	0.98	3.41	9.20	0.01	0.34	0.32
Total	**1.43**	**5.06**	**11.86**	**0.01**	**0.59**	**0.54**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Compressor Trailer	0.6	0.0	0.6
80-Ton Rough Terrain Crane	2.9	0.0	2.9
Total	**3.6**	**0.0**	**3.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	6	N/A	18
1-Ton Crew Cab Flat Bed, 4x4	1	6	N/A	18
Worker Commute	8	6	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 31
Subtransmission Source Line Construction Emissions
Steel Pole Assembly

Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Worker Commute	0.38	3.67	0.37	0.01	0.04	0.03
Offsite Total	**0.46**	**4.23**	**1.00**	**0.01**	**0.07**	**0.05**
Total	**0.46**	**4.23**	**1.00**	**0.01**	**0.07**	**0.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.1	0.0	0.1
1-Ton Crew Cab Flat Bed, 4x4	0.1	0.0	0.1
Worker Commute	1.4	0.0	1.4
Offsite Total	**1.7**	**0.0**	**1.7**
Total	**1.7**	**0.0**	**1.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0						
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Worker Commute	8	Paved	60	0.001	0.000	0.38	0.00
Offsite Total						**4.27**	**0.39**
Total						**4.27**	**0.39**

a From Table 51
[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52
[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 32
Subtransmission Source Line Construction Emissions
Steel Pole Erection

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	1.43	5.06	11.86	0.01	0.59	0.54	3.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.43**	**5.06**	**11.86**	**0.01**	**0.59**	**0.54**	**3.6**
Offsite Motor Vehicle Exhaust	0.46	4.23	1.00	0.01	0.07	0.05	1.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.27	0.39	
Offsite Total	**0.46**	**4.23**	**1.00**	**0.01**	**4.34**	**0.43**	**1.7**
Total	**1.89**	**9.29**	**12.86**	**0.02**	**4.93**	**0.98**	**5.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	6	5
80-Ton Rough Terrain Crane	350	1	6	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Compressor Trailer	120	0.089	0.329	0.533	0.001	0.049	0.045	46.950	0.008	Air Compressors
80-Ton Rough Terrain Crane	350	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Compressor Trailer	0.45	1.64	2.67	0.00	0.25	0.23
80-Ton Rough Terrain Crane	0.98	3.41	9.20	0.01	0.34	0.32
Total	**1.43**	**5.06**	**11.86**	**0.01**	**0.59**	**0.54**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Compressor Trailer	0.6	0.0	0.6
80-Ton Rough Terrain Crane	2.9	0.0	2.9
Total	**3.6**	**0.0**	**3.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	6	N/A	18
1-Ton Crew Cab Flat Bed, 4x4	1	6	N/A	18
Worker Commute	8	6	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 32
Subtransmission Source Line Construction Emissions
Steel Pole Erection

Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Worker Commute	0.38	3.67	0.37	0.01	0.04	0.03
Offsite Total	**0.46**	**4.23**	**1.00**	**0.01**	**0.07**	**0.05**
Total	**0.46**	**4.23**	**1.00**	**0.01**	**0.07**	**0.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.1	0.0	0.1
1-Ton Crew Cab Flat Bed, 4x4	0.1	0.0	0.1
Worker Commute	1.4	0.0	1.4
Offsite Total	**1.7**	**0.0**	**1.7**
Total	**1.7**	**0.0**	**1.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0						
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Worker Commute	8	Paved	60	0.001	0.000	0.38	0.00
Offsite Total						**4.27**	**0.39**
Total						**4.27**	**0.39**

a From Table 51
[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52
[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 33
Subtransmission Source Line Construction Emissions
Conductor Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	4.23	15.33	45.87	0.06	1.53	1.41	28.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**4.23**	**15.33**	**45.87**	**0.06**	**1.53**	**1.41**	**28.4**
Offsite Motor Vehicle Exhaust	1.31	10.03	6.75	0.02	0.36	0.29	8.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	34.47	3.36	
Offsite Total	**1.31**	**10.03**	**6.75**	**0.02**	**34.83**	**3.65**	**8.7**
Total	**5.54**	**25.36**	**52.62**	**0.08**	**36.36**	**5.06**	**37.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	350	1	10	8
22-Ton Manitex	350	1	10	8
Splicing Rig	10	1	10	2
Splicing Lab	16	1	10	2
3 Drum Straw Line Puller	300	1	10	6
Static Truck/Tensioner	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Bucket Truck	350	0.128	0.494	1.655	0.002	0.049	0.045	212.856	0.012	Aerial Lifts
22-Ton Manitex	350	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
Splicing Rig	10	0.012	0.062	0.074	0.000	0.003	0.003	10.107	0.001	Other Construction Equipment
Splicing Lab	16	0.028	0.095	0.163	0.000	0.010	0.009	17.631	0.002	Generator Sets
3 Drum Straw Line Puller	300	0.152	0.543	1.657	0.002	0.055	0.050	254.238	0.014	Other Construction Equipment
Static Truck/Tensioner	350	0.152	0.543	1.657	0.002	0.055	0.050	254.238	0.014	Other Construction Equipment

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Bucket Truck	1.02	3.95	13.24	0.02	0.39	0.36
22-Ton Manitex	1.31	4.55	12.26	0.01	0.46	0.42
Splicing Rig	0.02	0.12	0.15	0.00	0.01	0.01
Splicing Lab	0.06	0.19	0.33	0.00	0.02	0.02
3 Drum Straw Line Puller	0.91	3.26	9.94	0.01	0.33	0.30
Static Truck/Tensioner	0.91	3.26	9.94	0.01	0.33	0.30
Total	**4.23**	**15.33**	**45.87**	**0.06**	**1.53**	**1.41**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Bucket Truck	7.7	0.0	7.7
22-Ton Manitex	6.5	0.0	6.5
Splicing Rig	0.1	0.0	0.1
Splicing Lab	0.2	0.0	0.2
3 Drum Straw Line Puller	6.9	0.0	6.9
Static Truck/Tensioner	6.9	0.0	6.9
Total	**28.3**	**0.0**	**28.4**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	10	N/A	18
1-Ton Crew Cab Flat Bed, 4x4	1	10	N/A	18
Wire Truck/Trailer	1	10	N/A	18

Table 33
Subtransmission Source Line Construction Emissions
Conductor Installation

Dump Truck (Trash)	1	10	N/A	64
Bucket Truck	1	10	N/A	18
22-Ton Manitex	1	10	N/A	18
Splicing Rig	1	10	N/A	18
Splicing Lab	1	10	N/A	18
3 Drum Straw Line Puller	1	10	N/A	18
Static Truck/Tensioner	1	10	N/A	18
Worker Commute	16	10	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Wire Truck/Trailer	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Dump Truck (Trash)	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Bucket Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
22-Ton Manitex	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Splicing Rig	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Splicing Lab	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
3 Drum Straw Line Puller	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Static Truck/Tensioner	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Wire Truck/Trailer	0.05	0.18	0.56	0.00	0.03	0.02
Dump Truck (Trash)	0.16	0.65	1.98	0.00	0.10	0.08
Bucket Truck	0.05	0.18	0.56	0.00	0.03	0.02
22-Ton Manitex	0.05	0.18	0.56	0.00	0.03	0.02
Splicing Rig	0.04	0.28	0.31	0.00	0.01	0.01
Splicing Lab	0.04	0.28	0.31	0.00	0.01	0.01
3 Drum Straw Line Puller	0.05	0.18	0.56	0.00	0.03	0.02
Static Truck/Tensioner	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.76	7.35	0.74	0.01	0.09	0.06
Offsite Total	**1.31**	**10.03**	**6.75**	**0.02**	**0.36**	**0.29**
Total	**1.31**	**10.03**	**6.75**	**0.02**	**0.36**	**0.29**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.2	0.0	0.2
1-Ton Crew Cab Flat Bed, 4x4	0.2	0.0	0.2
Wire Truck/Trailer	0.3	0.0	0.3
Dump Truck (Trash)	1.2	0.0	1.2
Bucket Truck	0.3	0.0	0.3
22-Ton Manitex	0.3	0.0	0.3
Splicing Rig	0.2	0.0	0.2
Splicing Lab	0.2	0.0	0.2
3 Drum Straw Line Puller	0.3	0.0	0.3
Static Truck/Tensioner	0.3	0.0	0.3
Worker Commute	4.8	0.0	4.8
Offsite Total	**8.6**	**0.0**	**8.7**
Total	**8.6**	**0.0**	**8.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Table 33
Subtransmission Source Line Construction Emissions
Conductor Installation

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0						
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Wire Truck/Trailer	1	Paved	14	0.001	0.000	0.01	0.00
Dump Truck (Trash)	1	Paved	60	0.001	0.000	0.05	0.00
Bucket Truck	1	Paved	14	0.001	0.000	0.01	0.00
22-Ton Manitex	1	Paved	14	0.001	0.000	0.01	0.00
Splicing Rig	1	Paved	14	0.001	0.000	0.01	0.00
Splicing Lab	1	Paved	14	0.001	0.000	0.01	0.00
3 Drum Straw Line Puller	1	Paved	14	0.001	0.000	0.01	0.00
Static Truck/Tensioner	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Wire Truck/Trailer	1	Unpaved	4	0.922	0.092	3.69	0.37
Dump Truck (Trash)	1	Unpaved	4	0.922	0.092	3.69	0.37
Bucket Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
22-Ton Manitex	1	Unpaved	4	0.922	0.092	3.69	0.37
Splicing Rig	1	Unpaved	4	0.726	0.073	2.91	0.29
Splicing Lab	1	Unpaved	4	0.726	0.073	2.91	0.29
3 Drum Straw Line Puller	1	Unpaved	4	0.922	0.092	3.69	0.37
Static Truck/Tensioner	1	Unpaved	4	0.922	0.092	3.69	0.37
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
Worker Commute	16	Paved	60	0.001	0.000	0.77	0.00
Offsite Total						**34.47**	**3.36**
Total						**34.47**	**3.36**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 34
Subtransmission Source Line Construction Emissions
Guard Structure Removal

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	3.11	10.75	29.77	0.04	1.20	1.10	3.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.11**	**10.75**	**29.77**	**0.04**	**1.20**	**1.10**	**3.3**
Offsite Motor Vehicle Exhaust	0.50	3.86	2.57	0.01	0.14	0.11	0.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	15.28	1.49	
Offsite Total	**0.50**	**3.86**	**2.57**	**0.01**	**15.41**	**1.60**	**0.7**
Total	**3.62**	**14.62**	**32.34**	**0.04**	**16.61**	**2.71**	**3.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	2	6
30-Ton Crane Truck	300	1	2	8
80ft. Hydraulic Manlift/Bucket Truck	350	1	2	4
Backhoe/Front Loader	200	1	2	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Compressor Trailer	120	0.089	0.329	0.533	0.001	0.049	0.045	46.950	0.008	Air Compressors
30-Ton Crane Truck	300	0.163	0.569	1.533	0.002	0.057	0.053	180.101	0.015	Cranes
80ft. Hydraulic Manlift/Bucket Truck	350	0.128	0.494	1.655	0.002	0.049	0.045	212.856	0.012	Aerial Lifts
Backhoe/Front Loader	200	0.126	0.375	1.281	0.002	0.042	0.038	171.737	0.011	Tractors/Loaders/Backhoes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Compressor Trailer	0.53	1.97	3.20	0.00	0.30	0.27
30-Ton Crane Truck	1.31	4.55	12.26	0.01	0.46	0.42
80ft. Hydraulic Manlift/Bucket Truck	0.51	1.98	6.62	0.01	0.20	0.18
Backhoe/Front Loader	0.76	2.25	7.69	0.01	0.25	0.23
Total	**3.11**	**10.75**	**29.77**	**0.04**	**1.20**	**1.10**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Compressor Trailer	0.3	0.0	0.3
30-Ton Crane Truck	1.3	0.0	1.3
80ft. Hydraulic Manlift/Bucket Truck	0.8	0.0	0.8
Backhoe/Front Loader	0.9	0.0	0.9
Total	**3.3**	**0.0**	**3.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	2	N/A	18
1-Ton Crew Cab Flat Bed, 4x4	1	2	N/A	18
Extendable Flat Bed Pole Truck	1	2	N/A	18
30-Ton Crane Truck	1	2	N/A	18
80ft. Hydraulic Manlift/Bucket Truck	1	2	N/A	18
Worker Commute	6	2	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									

Table 34
Subtransmission Source Line Construction Emissions
Guard Structure Removal

None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
3/4-Ton Pick-up Truck, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
1-Ton Crew Cab Flat Bed, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Extendable Flat Bed Pole Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
30-Ton Crane Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
80ft. Hydraulic Manlift/Bucket Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
3/4-Ton Pick-up Truck, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
1-Ton Crew Cab Flat Bed, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Extendable Flat Bed Pole Truck	0.05	0.18	0.56	0.00	0.03	0.02
30-Ton Crane Truck	0.05	0.18	0.56	0.00	0.03	0.02
80ft. Hydraulic Manlift/Bucket Truck	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.50**	**3.86**	**2.57**	**0.01**	**0.14**	**0.11**
Total	**0.50**	**3.86**	**2.57**	**0.01**	**0.14**	**0.11**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
3/4-Ton Pick-up Truck, 4x4	0.0	0.0	0.0
1-Ton Crew Cab Flat Bed, 4x4	0.0	0.0	0.0
Extendable Flat Bed Pole Truck	0.1	0.0	0.1
30-Ton Crane Truck	0.1	0.0	0.1
80ft. Hydraulic Manlift/Bucket Truck	0.1	0.0	0.1
Worker Commute	0.4	0.0	0.4
Offsite Total	**0.7**	**0.0**	**0.7**
Total	**0.7**	**0.0**	**0.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0						
Onsite Total						**0.00**	**0.00**
Offsite							
3/4-Ton Pick-up Truck, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
1-Ton Crew Cab Flat Bed, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Extendable Flat Bed Pole Truck	1	Paved	14	0.001	0.000	0.01	0.00
30-Ton Crane Truck	1	Paved	14	0.001	0.000	0.01	0.00
80ft. Hydraulic Manlift/Bucket Truck	1	Paved	14	0.001	0.000	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	0.435	0.043	1.74	0.17
1-Ton Crew Cab Flat Bed, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Extendable Flat Bed Pole Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
30-Ton Crane Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
80ft. Hydraulic Manlift/Bucket Truck	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**15.28**	**1.49**
Total						**15.28**	**1.49**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00

Table 34
Subtransmission Source Line Construction Emissions
Guard Structure Removal

Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 35
Subtransmission Source Line Construction Emissions
Restoration

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	5.00	17.19	47.30	0.06	1.74	1.60	10.8
Onsite Motor Vehicle Exhaust	0.01	0.03	0.09	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.77	0.28	
Earthwork Fugitive PM	--	--	--	--	17.77	3.70	
Onsite Total	**5.01**	**17.22**	**47.39**	**0.06**	**22.28**	**5.57**	**10.8**
Offsite Motor Vehicle Exhaust	0.45	3.81	1.60	0.01	0.10	0.07	1.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.95	0.86	
Offsite Total	**0.45**	**3.81**	**1.60**	**0.01**	**9.05**	**0.93**	**1.2**
Total	**5.46**	**21.03**	**48.99**	**0.07**	**31.32**	**6.51**	**11.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Road Grader	350	1	4	6
Backhoe/Front Loader	350	1	4	6
Drum Type Compactor	250	1	4	6
Track Type Dozer	350	1	4	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Road Grader	350	0.195	0.664	1.819	0.002	0.067	0.062	229.484	0.018	Graders
Backhoe/Front Loader	350	0.239	0.771	2.262	0.004	0.078	0.072	344.854	0.022	Tractors/Loaders/Backhoes
Drum Type Compactor	250	0.135	0.408	1.410	0.002	0.050	0.046	153.090	0.012	Rollers
Track Type Dozer	350	0.266	1.022	2.391	0.003	0.094	0.087	259.229	0.024	Crawler Tractors

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Road Grader	1.17	3.98	10.92	0.01	0.40	0.37
Backhoe/Front Loader	1.43	4.63	13.57	0.02	0.47	0.43
Drum Type Compactor	0.81	2.45	8.46	0.01	0.30	0.28
Track Type Dozer	1.60	6.13	14.35	0.02	0.57	0.52
Total	**5.00**	**17.19**	**47.30**	**0.06**	**1.74**	**1.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Road Grader	2.5	0.0	2.5
Backhoe/Front Loader	3.8	0.0	3.8
Drum Type Compactor	1.7	0.0	1.7
Track Type Dozer	2.8	0.0	2.8
Total	**10.7**	**0.0**	**10.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	4	N/A	3
Offsite				
Water Truck	1	4	N/A	13
1-Ton Crew Cab, 4x4	1	4	N/A	18
Lowboy Truck/Trailer	1	4	N/A	18
Worker Commute	7	4	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
1-Ton Crew Cab, 4x4	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04

Table 35
Subtransmission Source Line Construction Emissions
Restoration

Lowboy Truck/Trailer	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Water Truck	0.01	0.03	0.09	0.00	0.00	0.00
Onsite Total	**0.01**	**0.03**	**0.09**	**0.00**	**0.00**	**0.00**
Offsite						
Water Truck	0.03	0.13	0.40	0.00	0.02	0.02
1-Ton Crew Cab, 4x4	0.04	0.28	0.31	0.00	0.01	0.01
Lowboy Truck/Trailer	0.05	0.18	0.56	0.00	0.03	0.02
Worker Commute	0.33	3.21	0.33	0.00	0.04	0.02
Offsite Total	**0.45**	**3.81**	**1.60**	**0.01**	**0.10**	**0.07**
Total	**0.46**	**3.84**	**1.69**	**0.01**	**0.10**	**0.08**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Water Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Water Truck	0.1	0.0	0.1
1-Ton Crew Cab, 4x4	0.1	0.0	0.1
Lowboy Truck/Trailer	0.1	0.0	0.1
Worker Commute	0.8	0.0	0.8
Offsite Total	**1.2**	**0.0**	**1.2**
Total	**1.2**	**0.0**	**1.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Water Truck	1	Unpaved	3	0.922	0.092	2.77	0.28
Onsite Total						**2.77**	**0.28**
Offsite							
Water Truck	1	Paved	10	0.001	0.000	0.01	0.00
1-Ton Crew Cab, 4x4	1	Paved	14	0.001	0.000	0.01	0.00
Lowboy Truck/Trailer	1	Paved	14	0.001	0.000	0.01	0.00
Water Truck	1	Unpaved	3	0.922	0.092	2.77	0.28
1-Ton Crew Cab, 4x4	1	Unpaved	4	0.532	0.053	2.13	0.21
Lowboy Truck/Trailer	1	Unpaved	4	0.922	0.092	3.69	0.37
Worker Commute	7	Paved	60	0.001	0.000	0.34	0.00
Offsite Total						**8.95**	**0.86**
Total						**11.72**	**1.13**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day	12	1.481	0.308	17.77	3.70
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**17.77**	**3.70**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 36
Telecommunications Construction
Control Building Communications Room

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.24	2.27	0.45	0.00	0.03	0.02	1.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.23	0.00	
Offsite Total	**0.24**	**2.27**	**0.45**	**0.00**	**0.26**	**0.02**	**1.4**
Total	**0.24**	**2.27**	**0.45**	**0.00**	**0.26**	**0.02**	**1.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
Van	2	10	N/A	14
Crew Truck	1	1	N/A	14
Worker Commute	4	10	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Van	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Crew Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						

Table 36
Telecommunications Construction
Control Building Communications Room

Van	0.02	0.21	0.02	0.00	0.00	0.00
Crew Truck	0.03	0.22	0.24	0.00	0.01	0.01
Worker Commute	0.19	1.84	0.19	0.00	0.02	0.01
Offsite Total	**0.24**	**2.27**	**0.45**	**0.00**	**0.03**	**0.02**
Total	**0.24**	**2.27**	**0.45**	**0.00**	**0.03**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Van	0.1	0.0	0.1
Crew Truck	0.0	0.0	0.0
Worker Commute	1.2	0.0	1.2
Offsite Total	**1.4**	**0.0**	**1.4**
Total	**1.4**	**0.0**	**1.4**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0					0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Van	2	Paved	14	0.001	0.000	0.02	0.00
Crew Truck	1	Paved	14	0.001	0.000	0.01	0.00
Worker Commute	4	Paved	60	0.001	0.000	0.19	0.00
Offsite Total						**0.23**	**0.00**
Total						**0.23**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 37
Telecommunications Construction
Overhead Cable Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.26	8.67	27.79	0.04	0.86	0.79	70.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.26**	**8.67**	**27.79**	**0.04**	**0.86**	**0.79**	**70.9**
Offsite Motor Vehicle Exhaust	0.47	4.05	1.73	0.01	0.09	0.07	12.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	65.44	6.52	
Offsite Total	**0.47**	**4.05**	**1.73**	**0.01**	**65.53**	**6.58**	**12.6**
Total	**2.74**	**12.72**	**29.52**	**0.04**	**66.39**	**7.38**	**83.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	350	2	44	8
Splice Lab Truck	16	1	44	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Bucket Truck	350	0.128	0.494	1.655	0.002	0.049	0.045	212.856	0.012	Aerial Lifts
Splice Lab Truck	16	0.028	0.095	0.163	0.000	0.010	0.009	17.631	0.002	Generator Sets

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Bucket Truck	2.04	7.90	26.48	0.03	0.79	0.72
Splice Lab Truck	0.22	0.76	1.31	0.00	0.08	0.07
Total	**2.26**	**8.67**	**27.79**	**0.04**	**0.86**	**0.79**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Bucket Truck	68.0	0.0	68.0
Splice Lab Truck	2.8	0.0	2.8
Total	**70.8**	**0.0**	**70.9**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
Bucket Truck	2	44	N/A	21
Splice Lab Truck	1	44	N/A	21
Crew Truck	1	44	N/A	21
Worker Commute	6	44	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Bucket Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Splice Lab Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Crew Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						

Table 37
Telecommunications Construction
Overhead Cable Installation

None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Bucket Truck	0.09	0.65	0.73	0.00	0.03	0.02
Splice Lab Truck	0.05	0.32	0.36	0.00	0.01	0.01
Crew Truck	0.05	0.32	0.36	0.00	0.01	0.01
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.47**	**4.05**	**1.73**	**0.01**	**0.09**	**0.07**
Total	**0.47**	**4.05**	**1.73**	**0.01**	**0.09**	**0.07**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Bucket Truck	2.3	0.0	2.3
Splice Lab Truck	1.2	0.0	1.2
Crew Truck	1.2	0.0	1.2
Worker Commute	7.9	0.0	7.9
Offsite Total	**12.6**	**0.0**	**12.6**
Total	**12.6**	**0.0**	**12.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0					0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Bucket Truck	2	Unpaved	21	0.922	0.092	38.73	3.87
Splice Lab Truck	1	Unpaved	21	0.726	0.073	15.25	1.53
Crew Truck	1	Unpaved	21	0.532	0.053	11.17	1.12
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**65.44**	**6.52**
Total						**65.44**	**6.52**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 38
Telecommunications Construction
Underground Facility Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.84	3.53	5.17	0.01	0.42	0.38	5.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.05	0.01	
Onsite Total	**0.84**	**3.53**	**5.17**	**0.01**	**0.47**	**0.40**	**5.0**
Offsite Motor Vehicle Exhaust	0.30	2.81	0.38	0.00	0.04	0.02	3.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.29	0.00	
Offsite Total	**0.30**	**2.81**	**0.38**	**0.00**	**0.33**	**0.02**	**3.7**
Total	**1.14**	**6.33**	**5.54**	**0.01**	**0.80**	**0.42**	**8.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe	79	1	20	8
Concrete Mixer	120	1	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Backhoe	79	0.076	0.356	0.491	0.001	0.043	0.040	51.728	0.007	Tractors/Loaders/Backhoes
Concrete Mixer	25	0.029	0.085	0.155	0.000	0.009	0.008	17.556	0.003	Cement and Mortar Mixers

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Backhoe	0.61	2.85	3.93	0.00	0.35	0.32
Concrete Mixer	0.23	0.68	1.24	0.00	0.07	0.07
Total	**0.84**	**3.53**	**5.17**	**0.01**	**0.42**	**0.38**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Backhoe	3.8	0.0	3.8
Concrete Mixer	1.3	0.0	1.3
Total	**5.0**	**0.0**	**5.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
Crew Truck	2	20	N/A	1
Flatbed Truck	1	20	N/A	1
Stake Truck	1	20	N/A	1
Worker Commute	6	20	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Crew Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Flatbed Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Stake Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						

Table 38
Telecommunications Construction
Underground Facility Installation

None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.00	0.03	0.03	0.00	0.00	0.00
Flatbed Truck	0.00	0.01	0.03	0.00	0.00	0.00
Stake Truck	0.00	0.01	0.03	0.00	0.00	0.00
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.30**	**2.81**	**0.38**	**0.00**	**0.04**	**0.02**
Total	**0.30**	**2.81**	**0.38**	**0.00**	**0.04**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Crew Truck	0.1	0.0	0.1
Flatbed Truck	0.0	0.0	0.0
Stake Truck	0.0	0.0	0.0
Worker Commute	3.6	0.0	3.6
Offsite Total	**3.7**	**0.0**	**3.7**
Total	**3.7**	**0.0**	**3.7**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0					0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Crew Truck	2	Paved	1	0.001	0.000	0.00	0.00
Flatbed Truck	1	Paved	1	0.001	0.000	0.00	0.00
Stake Truck	1	Paved	1	0.001	0.000	0.00	0.00
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**0.29**	**0.00**
Total						**0.29**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling[c]	CY/day	34	1.62E-03	3.36E-04	0.05	0.01
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.05**	**0.01**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

[c] Based on 671 CY over 20 days

Table 39
Telecommunications Construction
Underground Cable Installation

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	2.65	9.44	27.82	0.04	0.95	0.87	11.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.65**	**9.44**	**27.82**	**0.04**	**0.95**	**0.87**	**11.5**
Offsite Motor Vehicle Exhaust	0.30	2.81	0.38	0.00	0.04	0.02	1.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.29	0.00	
Offsite Total	**0.30**	**2.81**	**0.38**	**0.00**	**0.33**	**0.02**	**1.1**
Total	**2.95**	**12.25**	**28.20**	**0.05**	**1.28**	**0.90**	**12.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reel Truck	210	2	6	8
Splice Lab Truck	16	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Reel Truck	210	0.152	0.543	1.657	0.002	0.055	0.050	254.238	0.014	Other Construction Equipment
Splice Lab Truck	16	0.028	0.095	0.163	0.000	0.010	0.009	17.631	0.002	Generator Sets

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Reel Truck	2.43	8.68	26.52	0.04	0.87	0.80
Splice Lab Truck	0.22	0.76	1.31	0.00	0.08	0.07
Total	**2.65**	**9.44**	**27.82**	**0.04**	**0.95**	**0.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Reel Truck	11.1	0.0	11.1
Splice Lab Truck	0.4	0.0	0.4
Total	**11.5**	**0.0**	**11.5**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
None				0
Offsite				
Reel Truck	2	6	N/A	1
Crew Truck	1	6	N/A	1
Splice Lab Truck	1	6	N/A	1
Worker Commute	6	6	N/A	60

[a] Onsite travel based on 25% use at 10 mph average speed

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Reel Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Crew Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Splice Lab Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]

Table 39
Telecommunications Construction
Underground Cable Installation

Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Reel Truck	0.01	0.02	0.06	0.00	0.00	0.00
Crew Truck	0.00	0.02	0.02	0.00	0.00	0.00
Splice Lab Truck	0.00	0.02	0.02	0.00	0.00	0.00
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.30**	**2.81**	**0.38**	**0.00**	**0.04**	**0.02**
Total	**0.30**	**2.81**	**0.38**	**0.00**	**0.04**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Reel Truck	0.0	0.0	0.0
Crew Truck	0.0	0.0	0.0
Splice Lab Truck	0.0	0.0	0.0
Worker Commute	1.1	0.0	1.1
Offsite Total	**1.1**	**0.0**	**1.1**
Total	**1.1**	**0.0**	**1.1**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0					0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Reel Truck	2	Paved	1	0.001	0.000	0.00	0.00
Crew Truck	1	Paved	1	0.001	0.000	0.00	0.00
Splice Lab Truck	1	Paved	1	0.001	0.000	0.00	0.00
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**0.29**	**0.00**
Total						**0.29**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 40
Telecommunications Construction
Optical Systems Installation at Other Locations

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.57	5.51	0.56	0.01	0.06	0.04	4.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.58	0.00	
Offsite Total	**0.57**	**5.51**	**0.56**	**0.01**	**0.64**	**0.04**	**4.3**
Total	**0.57**	**5.51**	**0.56**	**0.01**	**0.64**	**0.04**	**4.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				0
Offsite				
Van	6	12	N/A	60
Worker Commute	6	12	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite									
Van	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
None	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Van	0.29	2.76	0.28	0.00	0.03	0.02
Worker Commute	0.29	2.76	0.28	0.00	0.03	0.02
Offsite Total	**0.57**	**5.51**	**0.56**	**0.01**	**0.06**	**0.04**
Total	**0.57**	**5.51**	**0.56**	**0.01**	**0.06**	**0.04**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 40
Telecommunications Construction
Optical Systems Installation at Other Locations

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
None	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Van	2.2	0.0	2.2
Worker Commute	2.2	0.0	2.2
Offsite Total	**4.3**	**0.0**	**4.3**
Total	**4.3**	**0.0**	**4.3**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
None	0					0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Van	6	Paved	60	0.001	0.000	0.29	0.00
Worker Commute	6	Paved	60	0.001	0.000	0.29	0.00
Offsite Total						**0.58**	**0.00**
Total						**0.58**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 41
Nuevo Substation Demolition Emissions
Civil

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.90	4.51	6.05	0.01	0.52	0.48	1.5
Onsite Motor Vehicle Exhaust	0.01	0.04	0.09	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.91**	**4.55**	**6.14**	**0.01**	**0.52**	**0.48**	**1.6**
Offsite Motor Vehicle Exhaust	0.57	3.62	4.25	0.01	0.22	0.19	2.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.24	0.00	
Offsite Total	**0.57**	**3.62**	**4.25**	**0.01**	**0.46**	**0.19**	**2.0**
Total	**1.47**	**8.17**	**10.40**	**0.02**	**0.99**	**0.67**	**3.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe	79	1	5	8
Bobcat Skid Steer	75	1	5	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Backhoe	79	0.076	0.356	0.491	0.001	0.043	0.040	51.728	0.007	Tractors/Loaders/Backhoes
Bobcat Skid Steer	75	0.048	0.277	0.354	0.001	0.029	0.026	42.762	0.004	Skid Steer Loaders

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Backhoe	0.61	2.85	3.93	0.00	0.35	0.32
Bobcat Skid Steer	0.29	1.66	2.12	0.00	0.17	0.16
Total	**0.90**	**4.51**	**6.05**	**0.01**	**0.52**	**0.48**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Backhoe	0.9	0.0	0.9
Bobcat Skid Steer	0.6	0.0	0.6
Total	**1.5**	**0.0**	**1.5**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]

Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	2	5	N/A	1
Water Truck	1	5	N/A	1
Tool Truck	1	5	N/A	1
Offsite				
Dump Truck	2	5	N/A	60
Water Truck	1	5	N/A	10
Worker Commute	5	5	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Tool Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Water Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Table 41
Nuevo Substation Demolition Emissions
Civil

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Dump Truck	0.01	0.02	0.06	0.00	0.00	0.00
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00
Tool Truck	0.00	0.01	0.00	0.00	0.00	0.00
Onsite Total	**0.01**	**0.04**	**0.09**	**0.00**	**0.00**	**0.00**
Offsite						
Dump Truck	0.30	1.23	3.71	0.00	0.18	0.16
Water Truck	0.03	0.10	0.31	0.00	0.01	0.01
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**0.57**	**3.62**	**4.25**	**0.01**	**0.22**	**0.19**
Total	**0.58**	**3.66**	**4.35**	**0.01**	**0.23**	**0.19**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Dump Truck	0.0	0.0	0.0
Water Truck	0.0	0.0	0.0
Tool Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Dump Truck	1.1	0.0	1.1
Water Truck	0.1	0.0	0.1
Worker Commute	0.7	0.0	0.8
Offsite Total	**2.0**	**0.0**	**2.0**
Total	**2.0**	**0.0**	**2.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Dump Truck	2	Paved	1	0.001	0.000	0.00	0.00
Water Truck	1	Paved	1	0.001	0.000	0.00	0.00
Tool Truck	1	Paved	1	0.001	0.000	0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Dump Truck	2	Paved	60	0.001	0.000	0.10	0.00
Water Truck	1	Paved	10	0.001	0.000	0.01	0.00
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**0.24**	**0.00**
Total						**0.24**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 42
Nuevo Substation Demolition Emissions
Electrical

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.54	28.46	4.03	0.00	0.27	0.25	1.6
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.54**	**28.48**	**4.04**	**0.00**	**0.27**	**0.25**	**1.6**
Offsite Motor Vehicle Exhaust	0.26	2.48	0.25	0.00	0.03	0.02	1.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.26	0.00	
Offsite Total	**0.26**	**2.48**	**0.25**	**0.00**	**0.29**	**0.02**	**1.1**
Total	**0.80**	**30.96**	**4.29**	**0.01**	**0.56**	**0.27**	**2.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift	25	2	7	6
15-Ton Crane	125	1	7	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Manlift	25	0.008	2.210	0.061	0.000	0.007	0.006	13.000	0.070	Aerial Lifts-Propane
15-Ton Crane	125	0.109	0.484	0.826	0.001	0.048	0.044	80.345	0.010	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Manlift	0.10	26.53	0.73	0.00	0.08	0.07
15-Ton Crane	0.44	1.94	3.30	0.00	0.19	0.18
Total	**0.54**	**28.46**	**4.03**	**0.00**	**0.27**	**0.25**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Manlift	0.5	0.0	0.6
15-Ton Crane	1.0	0.0	1.0
Total	**1.5**	**0.0**	**1.6**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Tool Trailer	1	7	N/A	1
Crew Truck	2	7	N/A	1
Offsite				
Crew Truck	2	7	N/A	12
Worker Commute	5	7	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Tool Trailer	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]

Table 42
Nuevo Substation Demolition Emissions
Electrical

Onsite						
Tool Trailer	0.00	0.01	0.00	0.00	0.00	0.00
Crew Truck	0.00	0.02	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.02	0.18	0.02	0.00	0.00	0.00
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**0.26**	**2.48**	**0.25**	**0.00**	**0.03**	**0.02**
Total	**0.26**	**2.50**	**0.25**	**0.00**	**0.03**	**0.02**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Tool Trailer	0.0	0.0	0.0
Crew Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Crew Truck	0.1	0.0	0.1
Worker Commute	1.0	0.0	1.1
Offsite Total	**1.1**	**0.0**	**1.1**
Total	**1.1**	**0.0**	**1.1**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Tool Trailer	1	Paved	1	0.001	0.000	0.00	0.00
Crew Truck	2	Paved	1	0.001	0.000	0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Crew Truck	2	Paved	12	0.001	0.000	0.02	0.00
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**0.26**	**0.00**
Total						**0.26**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 43
Nuevo Substation Demolition Emissions
Maintenance Crew Equipment Check

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.11	1.01	0.10	0.00	0.01	0.01	0.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.11	0.00	
Offsite Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.12**	**0.01**	**0.1**
Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.12**	**0.01**	**0.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None										

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Maintenance Truck	1	2	N/A	0.5
Offsite				
Maintenance Truck	1	2	N/A	12
Worker Commute	2	2	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Maintenance Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Maintenance Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Maintenance Truck	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Maintenance Truck	0.01	0.09	0.01	0.00	0.00	0.00
Worker Commute	0.10	0.92	0.09	0.00	0.01	0.01

Table 43
Nuevo Substation Demolition Emissions
Maintenance Crew Equipment Check

Offsite Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.01**	**0.01**
Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.01**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Maintenance Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Maintenance Truck	0.0	0.0	0.0
Worker Commute	0.1	0.0	0.1
Offsite Total	**0.1**	**0.0**	**0.1**
Total	**0.1**	**0.0**	**0.1**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Maintenance Truck	1	Paved	0.5	0.001	0.000	0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Maintenance Truck	1	Paved	12	0.001	0.000	0.01	0.00
Worker Commute	2	Paved	60	0.001	0.000	0.10	0.00
Offsite Total						**0.11**	**0.00**
Total						**0.11**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 44
Nuevo Substation Demolition Emissions
Testing

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.27	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.27**	**0.03**	**0.0**
Offsite Motor Vehicle Exhaust	0.11	1.01	0.10	0.00	0.01	0.01	0.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.11	0.00	
Offsite Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.12**	**0.01**	**0.1**
Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.38**	**0.03**	**0.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
None										

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
None	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
None	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	2	N/A	0.5
Offsite				
Crew Truck	1	2	N/A	12
Worker Commute	2	2	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Crew Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite						
Crew Truck	0.01	0.09	0.01	0.00	0.00	0.00
Worker Commute	0.10	0.92	0.09	0.00	0.01	0.01

Table 44
Nuevo Substation Demolition Emissions
Testing

Offsite Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.01**	**0.01**
Total	**0.11**	**1.01**	**0.10**	**0.00**	**0.01**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Crew Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Crew Truck	0.0	0.0	0.0
Worker Commute	0.1	0.0	0.1
Offsite Total	**0.1**	**0.0**	**0.1**
Total	**0.1**	**0.0**	**0.1**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Crew Truck	1	Unpaved	0.5	0.532	0.053	0.27	0.03
Onsite Total						**0.27**	**0.03**
Offsite							
Crew Truck	1	Paved	12	0.001	0.000	0.01	0.00
Worker Commute	2	Paved	60	0.001	0.000	0.10	0.00
Offsite Total						**0.11**	**0.00**
Total						**0.37**	**0.03**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 45
Model P.T. Substation Demolition Emissions
Civil

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	0.61	2.85	3.93	0.00	0.35	0.32	0.8
Onsite Motor Vehicle Exhaust	0.01	0.03	0.06	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.61**	**2.87**	**3.99**	**0.00**	**0.35**	**0.32**	**0.8**
Offsite Motor Vehicle Exhaust	0.43	3.12	2.47	0.01	0.14	0.11	1.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.24	0.00	
Offsite Total	**0.43**	**3.12**	**2.47**	**0.01**	**0.38**	**0.11**	**1.2**
Total	**1.04**	**6.00**	**6.46**	**0.01**	**0.73**	**0.43**	**1.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe	79	1	4	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Backhoe	79	0.076	0.356	0.491	0.001	0.043	0.040	51.728	0.007	Tractors/Loaders/Backhoes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5
and PM 2.5 Significance Thresholds, SCAQMD, October 2006,
http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Backhoe	0.61	2.85	3.93	0.00	0.35	0.32
Total	**0.61**	**2.85**	**3.93**	**0.00**	**0.35**	**0.32**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Backhoe	0.8	0.0	0.8
Total	**0.8**	**0.0**	**0.8**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x
days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	4	N/A	1
Flatbed Truck	1	4	N/A	1
Foreman Truck	1	4	N/A	1
Offsite				
Dump Truck	1	4	N/A	60
Flatbed Truck	1	4	N/A	12
Foreman Truck	1	4	N/A	12
Worker Commute	5	4	N/A	60

[a] Concrete trucks based on 430 CY over 5 days and 10 CY/truck = 430 / 5 / 10 = 8.6

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Flatbed Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Foreman Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Offsite									
Dump Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Flatbed Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Foreman Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Table 45
Model P.T. Substation Demolition Emissions
Civil

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Dump Truck	0.00	0.01	0.03	0.00	0.00	0.00
Flatbed Truck	0.00	0.01	0.03	0.00	0.00	0.00
Foreman Truck	0.00	0.01	0.00	0.00	0.00	0.00
Onsite Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.00**	**0.00**
Offsite						
Dump Truck	0.15	0.61	1.86	0.00	0.09	0.08
Flatbed Truck	0.03	0.12	0.37	0.00	0.02	0.02
Foreman Truck	0.01	0.09	0.01	0.00	0.00	0.00
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**0.43**	**3.12**	**2.47**	**0.01**	**0.14**	**0.11**
Total	**0.44**	**3.15**	**2.53**	**0.01**	**0.14**	**0.11**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Dump Truck	0.0	0.0	0.0
Flatbed Truck	0.0	0.0	0.0
Foreman Truck	0.0	0.0	0.0
Onsite Total	**0.0**	**0.0**	**0.0**
Offsite			
Dump Truck	0.5	0.0	0.5
Flatbed Truck	0.1	0.0	0.1
Foreman Truck	0.0	0.0	0.0
Worker Commute	0.6	0.0	0.6
Offsite Total	**1.2**	**0.0**	**1.2**
Total	**1.2**	**0.0**	**1.2**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Dump Truck	1	Paved	1	0.001	0.000	0.00	0.00
Flatbed Truck	1	Paved	1	0.001	0.000	0.00	0.00
Foreman Truck	1	Paved	1	0.001	0.000	0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Dump Truck	1	Paved	60	0.001	0.000	0.05	0.00
Flatbed Truck	1	Paved	12	0.001	0.000	0.01	0.00
Foreman Truck	1	Paved	12	0.001	0.000	0.01	0.00
Worker Commute	5	Paved	60	0.001	0.000	0.24	0.00
Offsite Total						**0.24**	**0.00**
Total						**0.24**	**0.00**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 46
Model P.T. Substation Demolition Emissions
Electrical

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT)
Construction Equipment Exhaust	3.06	11.19	29.03	0.04	1.15	1.06	36.5
Onsite Motor Vehicle Exhaust	0.01	0.03	0.06	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.07**	**11.22**	**29.09**	**0.04**	**1.16**	**1.07**	**36.6**
Offsite Motor Vehicle Exhaust	0.40	3.41	1.48	0.01	0.07	0.06	5.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.30	
Offsite Total	**0.40**	**3.41**	**1.48**	**0.01**	**0.37**	**0.35**	**5.3**
Total	**3.47**	**14.63**	**30.57**	**0.04**	**1.53**	**1.42**	**41.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Wire Dolly	9	1	22	8
Boom Truck	235	1	22	8
Pumper/Tanker Truck	200	1	22	8
Crane	125	1	22	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	Category
Wire Dolly	9	0.012	0.062	0.074	0.000	0.003	0.003	10.107	0.001	Other Construction Equipment
Boom Truck	235	0.110	0.310	1.071	0.001	0.039	0.036	112.159	0.010	Cranes
Pumper/Tanker Truck	200	0.152	0.543	1.657	0.002	0.055	0.050	254.238	0.014	Other Construction Equipment
Crane	125	0.109	0.484	0.826	0.001	0.048	0.044	80.345	0.010	Cranes

a From Table 48

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006, http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

Construction Equipment Daily Criteria Pollutant Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Wire Dolly	0.09	0.49	0.59	0.00	0.02	0.02
Boom Truck	0.88	2.48	8.57	0.01	0.31	0.29
Pumper/Tanker Truck	1.21	4.34	13.26	0.02	0.44	0.40
Crane	0.87	3.87	6.61	0.01	0.38	0.35
Total	**3.06**	**11.19**	**29.03**	**0.04**	**1.15**	**1.06**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Construction Equipment Total Greenhouse Gas Emissions

Equipment	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Wire Dolly	0.8	0.0	0.8
Boom Truck	9.0	0.0	9.0
Pumper/Tanker Truck	20.3	0.0	20.3
Crane	6.4	0.0	6.4
Total	**36.5**	**0.0**	**36.5**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x hours/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 48

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Line Truck	1	22	N/A	0.5
Troubleman Truck	1	22	N/A	0.5
Boom Truck	1	22	N/A	0.5
Foreman Truck	1	22	N/A	0.5
Flatbed Truck	1	22	N/A	0.5
Pumper/Tanker Truck	1	22	N/A	0.5
Offsite				
Line Truck	1	22	N/A	12
Troubleman Truck	1	22	N/A	12

Table 46
Model P.T. Substation Demolition Emissions
Electrical

Boom Truck	1	22	N/A	12
Foreman Truck	1	22	N/A	12
Flatbed Truck	1	22	N/A	12
Pumper/Tanker Truck	1	22	N/A	12
Worker Commute	5	22	N/A	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Onsite									
Line Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Troubleman Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Boom Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Foreman Truck	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Flatbed Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Pumper/Tanker Truck	HHDT	2.53E-03	1.02E-02	3.09E-02	4.04E-05	1.50E-03	1.29E-03	4.22E+00	1.17E-04
Offsite									
Line Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Troubleman Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Boom Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Foreman Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Flatbed Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Pumper/Tanker Truck	Delivery	2.24E-03	1.55E-02	1.73E-02	2.67E-05	6.50E-04	5.50E-04	2.77E+00	1.07E-04
Worker Commute	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Onsite						
Line Truck	0.00	0.01	0.01	0.00	0.00	0.00
Troubleman Truck	0.00	0.01	0.01	0.00	0.00	0.00
Boom Truck	0.00	0.01	0.02	0.00	0.00	0.00
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00
Flatbed Truck	0.00	0.01	0.02	0.00	0.00	0.00
Pumper/Tanker Truck	0.00	0.01	0.02	0.00	0.00	0.00
Onsite Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.00**	**0.00**
Offsite						
Line Truck	0.03	0.19	0.21	0.00	0.01	0.01
Troubleman Truck	0.03	0.19	0.21	0.00	0.01	0.01
Boom Truck	0.03	0.19	0.21	0.00	0.01	0.01
Foreman Truck	0.03	0.19	0.21	0.00	0.01	0.01
Flatbed Truck	0.03	0.19	0.21	0.00	0.01	0.01
Pumper/Tanker Truck	0.03	0.19	0.21	0.00	0.01	0.01
Worker Commute	0.24	2.30	0.23	0.00	0.03	0.02
Offsite Total	**0.40**	**3.41**	**1.48**	**0.01**	**0.07**	**0.06**
Total	**0.41**	**3.44**	**1.54**	**0.01**	**0.08**	**0.06**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Total Greenhouse Gas Emissions

Vehicle	CO2 (MT)[a]	CH4 (MT)[a]	CO2e (MT)[b]
Onsite			
Line Truck	0.0	0.0	0.0
Troubleman Truck	0.0	0.0	0.0
Boom Truck	0.0	0.0	0.0
Foreman Truck	0.0	0.0	0.0
Flatbed Truck	0.0	0.0	0.0
Pumper/Tanker Truck	0.0	0.0	0.0
Onsite Total	**0.1**	**0.0**	**0.1**
Offsite			
Line Truck	0.3	0.0	0.3
Troubleman Truck	0.3	0.0	0.3
Boom Truck	0.3	0.0	0.3
Foreman Truck	0.3	0.0	0.3
Flatbed Truck	0.3	0.0	0.3
Pumper/Tanker Truck	0.3	0.0	0.3
Worker Commute	3.3	0.0	3.3
Offsite Total	**5.3**	**0.0**	**5.3**
Total	**5.4**	**0.0**	**5.4**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Table 46
Model P.T. Substation Demolition Emissions
Electrical

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Onsite							
Line Truck	1	Paved	0.5	0.001	0.001	0.00	0.00
Troubleman Truck	1	Paved	0.5	0.001	0.001	0.00	0.00
Boom Truck	1	Paved	0.5	0.001	0.001	0.00	0.00
Foreman Truck	1	Paved	0.5	0.001	0.001	0.00	0.00
Flatbed Truck	1	Paved	0.5	0.001	0.001	0.00	0.00
Pumper/Tanker Truck	1	Paved	0.5	0.001	0.001	0.00	0.00
Onsite Total						**0.00**	**0.00**
Offsite							
Line Truck	1	Paved	12	0.001	0.001	0.01	0.01
Troubleman Truck	1	Paved	12	0.001	0.001	0.01	0.01
Boom Truck	1	Paved	12	0.001	0.001	0.01	0.01
Foreman Truck	1	Paved	12	0.001	0.001	0.01	0.01
Flatbed Truck	1	Paved	12	0.001	0.001	0.01	0.01
Pumper/Tanker Truck	1	Paved	12	0.001	0.001	0.01	0.01
Worker Commute	5	Paved	60	0.001	0.001	0.24	0.24
Offsite Total						**0.30**	**0.30**
Total						**0.30**	**0.30**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Activity Level	PM10 Emission Factor[a]	PM2.5 Emission Factor[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]
Soil Handling	CY/day		1.62E-03	3.36E-04	0.00	0.00
Bulldozing, Scraping and Grading	hr/day		1.481	0.308	0.00	0.00
Storage Pile Wind Erosion	acres		15.7	3.26	0.00	0.00
Total					**0.00**	**0.00**

a From Table 52

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Activity unit [units/day]

Table 47
Operational Emissions

Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (MT/yr)
Motor Vehicle Exhaust	0.10	0.97	0.10	0.00	0.01	0.01	1
Motor Vehicle Fugitive PM	--	--	--	--	3.15	0.30	--
SF6 Leakage	--	--	--	--	--	--	20
Total	**0.10**	**0.97**	**0.10**	**0.00**	**3.16**	**0.31**	**21**

Motor Vehicle Usage

Vehicle	Number	Days Used/ Year	Miles/ Day/ Veh.
Subtransmission Line Inspection	1	1	67
Substation Site Visit	1	48	60

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]
Subtransmission Line Inspection	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05
Substation Site Visit	Passenger	7.96E-04	7.65E-03	7.76E-04	1.07E-05	8.98E-05	5.75E-05	1.10E+00	7.17E-05

a From Table 49 or Table 50

Motor Vehicle Daily Criteria Pollutant Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]
Subtransmission Line Inspection	0.05	0.51	0.05	0.00	0.01	0.00
Substation Site Visit	0.05	0.46	0.05	0.00	0.01	0.00
Total	**0.10**	**0.97**	**0.10**	**0.00**	**0.01**	**0.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Motor Vehicle Annual Greenhouse Gas Emissions

Vehicle	CO2 (MT/yr)[a]	CH4 (MT/yr)[a]	CO2e (MT/yr)[b]
Subtransmission Line Inspection	0.0	0.0	0.0
Substation Site Visit	1.4	0.0	1.4
Total	**1.5**	**0.0**	**1.5**

[a] Emissions [metric tons, MT] = emission factor [lb/hr] x miles/day x Number x days used x 453.6 [g/lb] / 1,000,000 [g/MT]
Emission factors are in Table 49 and Table 50

[b] CO_2-equivalent (CO_2e) emission factors are CO_2 emissions plus 21 x CH_4 emissions, based on Table C.1 from California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]
Subtransmission Line Inspection	1	Paved	67	0.001	0.000	0.05	0.00
Subtransmission Line Inspection	1	Unpaved	7	0.435	0.043	3.04	0.30
Substation Site Visit	1	Paved	60	0.001	0.000	0.05	0.00
Total						**3.15**	**0.30**

a From Table 51

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

SF6 Leakage Greenhouse Gas Emissions

Item	Value	Units
Total SF6	378	pounds
SF6 Leakage Rate	0.5	%/year
SF6 Emissions	1.89	pounds
SF6 Global Warming Potential[a]	23,200	
CO2e Emissions[b]	**20**	**MT/yr**

[a] Based on Table C.1 from California Climate Action

Table 47
Operational Emissions

Registry General Reporting Protocol, Version 3.0, April 2008. http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf

[b] CO_2e emissions [metric tons] = SF_6 emissions [lb] x Global warming potential [lb CO_2e/lb SF_6] x 453.6 [g/lb] / 1,000,000 [g/MT]

Table 48
SCAB Fleet Average Emission Factors (Diesel)

2012

Air Basin	SC

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM	(lb/hr) CO2	(lb/hr) CH4
Aerial Lifts	15	0.0102	0.0528	0.0642	0.0001	0.0030	8.7	0.0009
	25	0.0175	0.0517	0.0957	0.0001	0.0055	11.0	0.0016
	50	0.0650	0.1822	0.1916	0.0003	0.0169	19.6	0.0059
	120	0.0607	0.2451	0.4012	0.0004	0.0324	38.1	0.0055
	500	0.1276	0.4941	1.6553	0.0021	0.0491	213	0.0115
	750	0.2379	0.8930	3.0795	0.0039	0.0903	385	0.0215
Aerial Lifts Composite		0.0576	0.1976	0.3249	0.0004	0.0219	34.7	0.0052
Aerial Lifts-Propane	15	0.0037	1.4362	0.0393	0.0000	0.0041	8.9	0.0311
	25	0.0083	2.2104	0.0608	0.0000	0.0067	13.0	0.0697
Aerial Lifts-Propane Composite								
Air Compressors	15	0.0129	0.0494	0.0768	0.0001	0.0052	7.2	0.0012
	25	0.0286	0.0779	0.1337	0.0002	0.0087	14.4	0.0026
	50	0.1010	0.2646	0.2310	0.0003	0.0239	22.3	0.0091
	120	0.0891	0.3287	0.5333	0.0006	0.0492	47.0	0.0080
	175	0.1135	0.5074	0.8954	0.0010	0.0512	88.5	0.0102
	250	0.1066	0.3052	1.2194	0.0015	0.0379	131	0.0096
	500	0.1709	0.5726	1.9077	0.0023	0.0623	232	0.0154
	750	0.2681	0.8849	3.0371	0.0036	0.0980	358	0.0242
	1000	0.4533	1.5617	5.4098	0.0049	0.1589	486	0.0409
Air Compressors Composite		0.0984	0.3445	0.6494	0.0007	0.0469	63.6	0.0089
Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	10.3	0.0011
	25	0.0194	0.0658	0.1233	0.0002	0.0054	16.0	0.0017
	50	0.0351	0.2335	0.2768	0.0004	0.0149	31.0	0.0032
	120	0.0514	0.4724	0.5026	0.0009	0.0328	77.1	0.0046
	175	0.0750	0.7538	0.7479	0.0016	0.0366	141	0.0068
	250	0.0838	0.3435	0.8722	0.0021	0.0268	188	0.0076
	500	0.1354	0.5526	1.3152	0.0031	0.0437	311	0.0122
	750	0.2685	1.0916	2.6320	0.0062	0.0865	615	0.0242
	1000	0.4491	1.6773	6.6123	0.0093	0.1699	928	0.0405
Bore/Drill Rigs Composite		0.0854	0.5068	0.9013	0.0017	0.0367	165	0.0077
Cement and Mortar Mixers	15	0.0075	0.0386	0.0475	0.0001	0.0023	6.3	0.0007
	25	0.0293	0.0852	0.1548	0.0002	0.0091	17.6	0.0026
Cement and Mortar Mixers Composite		0.0093	0.0425	0.0564	0.0001	0.0029	7.2	0.0008
Concrete/Industrial Saws	25	0.0199	0.0678	0.1261	0.0002	0.0050	16.5	0.0018
	50	0.1047	0.3015	0.2972	0.0004	0.0268	30.2	0.0094
	120	0.1155	0.4880	0.7625	0.0009	0.0639	74.1	0.0104
	175	0.1685	0.8723	1.4507	0.0018	0.0767	160	0.0152
Concrete/Industrial Saws Composite		0.1090	0.4148	0.5910	0.0007	0.0491	58.5	0.0098
Cranes	50	0.1101	0.2979	0.2478	0.0003	0.0258	23.2	0.0099
	120	0.0982	0.3650	0.5844	0.0006	0.0533	50.1	50.1
	175	0.1089	0.4838	0.8259	0.0009	0.0479	80.3	0.0098
	250	0.1103	0.3103	1.0712	0.0013	0.0388	112	0.0100
	500	0.1635	0.5691	1.5327	0.0018	0.0571	180	0.0148
	750	0.2767	0.9554	2.6486	0.0030	0.0974	303	0.0250
	9999	0.9905	3.5715	10.9484	0.0098	0.3384	971	0.0894
Cranes Composite		0.1425	0.4946	1.2753	0.0014	0.0553	129	0.0129
Crawler Tractors	50	0.1262	0.3333	0.2713	0.0003	0.0289	24.9	0.0114
	120	0.1374	0.4906	0.8120	0.0008	0.0729	65.8	0.0124
	175	0.1758	0.7491	1.3245	0.0014	0.0765	121	0.0159
	250	0.1854	0.5225	1.7044	0.0019	0.0667	166	0.0167
	500	0.2659	1.0217	2.3914	0.0025	0.0942	259	0.0240
	750	0.4784	1.8248	4.3817	0.0047	0.1705	465	0.0432
	1000	0.7229	2.8959	7.7626	0.0066	0.2503	658	0.0652
Crawler Tractors Composite		0.1671	0.6051	1.2309	0.0013	0.0752	114	0.0151
Crushing/Proc. Equipment	50	0.1927	0.5215	0.4545	0.0006	0.0462	44.0	0.0174

Table 48
SCAB Fleet Average Emission Factors (Diesel)

2012

Air Basin	SC

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM	(lb/hr) CO2	(lb/hr) CH4
	120	0.1525	0.5829	0.9172	0.0010	0.0851	83.1	0.0138
	175	0.2088	0.9654	1.6343	0.0019	0.0946	167	0.0188
	250	0.1953	0.5592	2.1896	0.0028	0.0682	245	0.0176
	500	0.2733	0.8961	2.9457	0.0037	0.0972	374	0.0247
	750	0.4361	1.3892	4.8387	0.0059	0.1560	589	0.0394
	9999	1.2112	4.0327	14.2648	0.0131	0.4203	1,308	0.1093
Crushing/Proc. Equipment Composite		0.1872	0.6911	1.2633	0.0015	0.0819	132	0.0169
Dumpers/Tenders	25	0.0100	0.0324	0.0614	0.0001	0.0031	7.6	0.0009
Dumpers/Tenders Composite		0.0100	0.0324	0.0614	0.0001	0.0031	7.6	0.0009
Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0048	16.4	0.0018
	50	0.0912	0.2933	0.2568	0.0003	0.0237	25.0	0.0082
	120	0.1183	0.5220	0.7300	0.0009	0.0657	73.6	0.0107
	175	0.1288	0.6678	0.9613	0.0013	0.0569	112	0.0116
	250	0.1301	0.3630	1.2438	0.0018	0.0415	159	0.0117
	500	0.1805	0.5493	1.6112	0.0023	0.0574	234	0.0163
	750	0.3013	0.9096	2.7605	0.0039	0.0969	387	0.0272
Excavators Composite		0.1300	0.5401	0.9817	0.0013	0.0536	120	0.0117
Forklifts	50	0.0514	0.1682	0.1488	0.0002	0.0136	14.7	0.0046
	120	0.0489	0.2195	0.3017	0.0004	0.0277	31.2	0.0044
	175	0.0624	0.3304	0.4664	0.0006	0.0278	56.1	0.0056
	250	0.0595	0.1638	0.5872	0.0009	0.0187	77.1	0.0054
	500	0.0806	0.2241	0.7257	0.0011	0.0252	111	0.0073
Forklifts Composite		0.0585	0.2257	0.4330	0.0006	0.0231	54.4	0.0053
Forklifts-Propane	25	0.0124	1.9683	0.0550	0.0000	0.0068	10.3	0.1042
	50	0.0023	0.2932	0.0984	0.0000	0.0016	18.3	0.0191
	120	0.0039	1.4083	0.1724	0.0000	0.0028	31.2	0.0330
	175	0.0055	2.2550	0.2663	0.0000	0.0058	65.1	0.0460
Forklifts-Propane Composite								
Generator Sets	15	0.0157	0.0698	0.1063	0.0002	0.0061	10.2	0.0014
	25	0.0276	0.0951	0.1632	0.0002	0.0096	17.6	0.0025
	50	0.0959	0.2734	0.2966	0.0004	0.0255	30.6	0.0087
	120	0.1206	0.4956	0.8099	0.0009	0.0640	77.9	0.0109
	175	0.1460	0.7413	1.3131	0.0016	0.0644	142	0.0132
	250	0.1372	0.4502	1.8047	0.0024	0.0508	213	0.0124
	500	0.1952	0.7617	2.5896	0.0033	0.0756	337	0.0176
	750	0.3257	1.2296	4.3019	0.0055	0.1241	544	0.0294
	9999	0.8673	3.0642	10.8871	0.0105	0.3104	1,049	0.0783
Generator Sets Composite		0.0832	0.3121	0.5779	0.0007	0.0351	61.0	0.0075
Graders	50	0.1182	0.3365	0.2882	0.0004	0.0286	27.5	0.0107
	120	0.1348	0.5355	0.8223	0.0009	0.0740	75.0	0.0122
	175	0.1554	0.7363	1.1931	0.0014	0.0688	124	0.0140
	250	0.1575	0.4508	1.5344	0.0019	0.0547	172	0.0142
	500	0.1947	0.6639	1.8193	0.0023	0.0671	229	0.0176
	750	0.4147	1.4022	3.9602	0.0049	0.1439	486	0.0374
Graders Composite		0.1533	0.6129	1.2503	0.0015	0.0649	133	0.0138
Off-Highway Tractors	120	0.2224	0.7269	1.2964	0.0011	0.1143	93.7	0.0201
	175	0.2135	0.8404	1.6085	0.0015	0.0923	130	0.0193
	250	0.1718	0.4896	1.5282	0.0015	0.0644	130	0.0155
	750	0.6814	3.0883	6.1417	0.0057	0.2515	568	0.0615
	1000	1.0246	4.8137	10.5080	0.0082	0.3620	814	0.0924
Off-Highway Tractors Composite		0.2170	0.7878	1.7969	0.0017	0.0871	151	0.0196
Off-Highway Trucks	175	0.1533	0.7593	1.1072	0.0014	0.0666	125	0.0138
	250	0.1469	0.3944	1.3513	0.0019	0.0461	167	0.0133
	500	0.2263	0.6661	1.9463	0.0027	0.0705	272	0.0204
	750	0.3695	1.0792	3.2612	0.0044	0.1164	442	0.0333

Table 48
SCAB Fleet Average Emission Factors (Diesel)

2012

Air Basin	SC

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM	(lb/hr) CO2	(lb/hr) CH4
	1000	0.5790	1.7854	6.4025	0.0063	0.1933	625	0.0522
Off-Highway Trucks Composite		0.2241	0.6635	2.0158	0.0027	0.0715	260	0.0202
Other Construction Equipment	15	0.0118	0.0617	0.0737	0.0002	0.0028	10.1	0.0011
	25	0.0160	0.0544	0.1019	0.0002	0.0044	13.2	0.0014
	50	0.0842	0.2740	0.2707	0.0004	0.0228	28.0	0.0076
	120	0.1104	0.5320	0.7540	0.0009	0.0633	80.9	0.0100
	175	0.1008	0.5880	0.8599	0.0012	0.0467	107	0.0091
	500	0.1517	0.5426	1.6573	0.0025	0.0545	254	0.0137
Other Construction Equipment Composite		0.0925	0.3847	0.8599	0.0013	0.0366	123	0.0083
Other General Industrial Equipment	15	0.0066	0.0391	0.0466	0.0001	0.0018	6.4	0.0006
	25	0.0185	0.0632	0.1170	0.0002	0.0045	15.3	0.0017
	50	0.1085	0.2856	0.2332	0.0003	0.0253	21.7	0.0098
	120	0.1274	0.4542	0.7277	0.0007	0.0703	62.0	0.0115
	175	0.1349	0.5757	1.0001	0.0011	0.0599	95.9	0.0122
	250	0.1235	0.3281	1.2983	0.0015	0.0417	136	0.0111
	500	0.2232	0.6772	2.2367	0.0026	0.0758	265	0.0201
	750	0.3707	1.1162	3.8016	0.0044	0.1273	437	0.0334
	1000	0.5621	1.8453	6.4018	0.0056	0.1947	560	0.0507
Other General Industrial Equipment Composite		0.1635	0.5362	1.4520	0.0016	0.0632	152	0.0148
Other Material Handling Equipment	50	0.1506	0.3950	0.3243	0.0004	0.0352	30.3	0.0136
	120	0.1239	0.4423	0.7103	0.0007	0.0684	60.7	0.0112
	175	0.1703	0.7292	1.2706	0.0014	0.0759	122	0.0154
	250	0.1305	0.3496	1.3863	0.0016	0.0443	145	0.0118
	500	0.1590	0.4876	1.6124	0.0019	0.0545	192	0.0143
	9999	0.7467	2.4395	8.4619	0.0073	0.2565	741	0.0674
Other Material Handling Equipment Composite		0.1566	0.5108	1.4125	0.0015	0.0613	141	0.0141
Pavers	25	0.0255	0.0811	0.1531	0.0002	0.0080	18.7	0.0023
	50	0.1451	0.3680	0.3038	0.0004	0.0327	28.0	0.0131
	120	0.1467	0.5107	0.8788	0.0008	0.0776	69.2	0.0132
	175	0.1864	0.7833	1.4495	0.0014	0.0819	128	0.0168
	250	0.2182	0.6365	2.0698	0.0022	0.0818	194	0.0197
	500	0.2383	0.9957	2.2418	0.0023	0.0883	233	0.0215
Pavers Composite		0.1596	0.5445	0.8980	0.0009	0.0642	77.9	0.0144
Paving Equipment	25	0.0153	0.0520	0.0974	0.0002	0.0042	12.6	0.0014
	50	0.1239	0.3124	0.2591	0.0003	0.0279	23.9	0.0112
	120	0.1150	0.3997	0.6897	0.0006	0.0610	54.5	0.0104
	175	0.1455	0.6114	1.1384	0.0011	0.0640	101	0.0131
	250	0.1349	0.3946	1.2976	0.0014	0.0507	122	0.0122
Paving Equipment Composite		0.1204	0.4365	0.8114	0.0008	0.0570	68.9	0.0109
Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0013	4.3	0.0005
Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0013	4.3	0.0005
Pressure Washers	15	0.0075	0.0334	0.0509	0.0001	0.0029	4.9	0.0007
	25	0.0112	0.0385	0.0662	0.0001	0.0039	7.1	0.0010
	50	0.0349	0.1074	0.1339	0.0002	0.0102	14.3	0.0032
	120	0.0332	0.1458	0.2385	0.0003	0.0172	24.1	0.0030
Pressure Washers Composite		0.0173	0.0635	0.0921	0.0001	0.0063	9.4	0.0016
Pumps	15	0.0133	0.0508	0.0790	0.0001	0.0054	7.4	0.0012
	25	0.0386	0.1051	0.1803	0.0002	0.0117	19.5	0.0035
	50	0.1155	0.3229	0.3362	0.0004	0.0299	34.3	0.0104
	120	0.1250	0.5036	0.8226	0.0009	0.0669	77.9	0.0113
	175	0.1498	0.7431	1.3164	0.0016	0.0664	140	0.0135
	250	0.1357	0.4345	1.7375	0.0023	0.0501	201	0.0122
	500	0.2089	0.8032	2.6861	0.0034	0.0803	345	0.0188
	750	0.3557	1.3279	4.5700	0.0057	0.1350	571	0.0321
	9999	1.1456	4.0641	14.2305	0.0136	0.4081	1,355	0.1034

Table 48
SCAB Fleet Average Emission Factors (Diesel)

2012

Air Basin	SC

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM	(lb/hr) CO2	(lb/hr) CH4
Pumps Composite		0.0813	0.2983	0.4999	0.0006	0.0351	49.6	0.0073
Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	6.3	0.0007
	25	0.0162	0.0549	0.1029	0.0002	0.0045	13.3	0.0015
	50	0.1105	0.2994	0.2677	0.0003	0.0263	26.0	0.0100
	120	0.1054	0.4098	0.6619	0.0007	0.0574	59.0	0.0095
	175	0.1320	0.6220	1.0725	0.0012	0.0591	108	0.0119
	250	0.1347	0.4083	1.4103	0.0017	0.0498	153	0.0122
	500	0.1755	0.6752	1.8093	0.0022	0.0652	219	0.0158
Rollers Composite		0.1038	0.4107	0.6936	0.0008	0.0488	67.1	0.0094
Rough Terrain Forklifts	50	0.1315	0.3910	0.3455	0.0004	0.0330	33.9	0.0119
	120	0.1038	0.4364	0.6425	0.0007	0.0585	62.4	0.0094
	175	0.1444	0.7268	1.1204	0.0014	0.0652	125	0.0130
	250	0.1353	0.3896	1.4082	0.0019	0.0458	171	0.0122
	500	0.1894	0.5985	1.8577	0.0025	0.0642	257	0.0171
Rough Terrain Forklifts Composite		0.1093	0.4680	0.6995	0.0008	0.0587	70.3	0.0099
Rubber Tired Dozers	175	0.2209	0.8528	1.6304	0.0015	0.0945	129	0.0199
	250	0.2545	0.7124	2.1985	0.0021	0.0942	183	0.0230
	500	0.3345	1.5220	2.8822	0.0026	0.1210	265	0.0302
	750	0.5042	2.2809	4.4100	0.0040	0.1832	399	0.0455
	1000	0.7807	3.6654	7.7816	0.0060	0.2729	592	0.0704
Rubber Tired Dozers Composite		0.3114	1.2491	2.6866	0.0025	0.1137	239	0.0281
Rubber Tired Loaders	25	0.0205	0.0697	0.1295	0.0002	0.0052	16.9	0.0018
	50	0.1315	0.3756	0.3242	0.0004	0.0319	31.1	0.0119
	120	0.1045	0.4187	0.6404	0.0007	0.0576	58.9	0.0094
	175	0.1312	0.6288	1.0135	0.0012	0.0583	106	0.0118
	250	0.1330	0.3838	1.3129	0.0017	0.0462	149	0.0120
	500	0.1961	0.6755	1.8555	0.0023	0.0677	237	0.0177
	750	0.4044	1.3812	3.9115	0.0049	0.1408	486	0.0365
	1000	0.5480	1.9543	6.3337	0.0060	0.1909	594	0.0494
Rubber Tired Loaders Composite		0.1272	0.4855	1.0034	0.0012	0.0558	109	0.0115
Scrapers	120	0.1990	0.7011	1.1749	0.0011	0.1054	93.9	0.0180
	175	0.2172	0.9158	1.6429	0.0017	0.0945	148	0.0196
	250	0.2367	0.6699	2.1849	0.0024	0.0859	209	0.0214
	500	0.3333	1.3000	3.0162	0.0032	0.1190	321	0.0301
	750	0.5779	2.2380	5.3231	0.0056	0.2075	555	0.0521
Scrapers Composite		0.2916	1.0984	2.5680	0.0027	0.1087	262	0.0263
Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0017	6.2	0.0006
	50	0.1270	0.3587	0.3564	0.0005	0.0324	36.2	0.0115
	120	0.1284	0.5269	0.8360	0.0009	0.0703	80.2	0.0116
	175	0.1661	0.8370	1.4268	0.0017	0.0750	155	0.0150
	250	0.1746	0.5516	2.1599	0.0029	0.0639	255	0.0158
Signal Boards Composite		0.0203	0.0940	0.1470	0.0002	0.0083	16.7	0.0018
Skid Steer Loaders	25	0.0211	0.0635	0.1189	0.0002	0.0067	13.8	0.0019
	50	0.0596	0.2332	0.2402	0.0003	0.0180	25.5	0.0054
	120	0.0482	0.2769	0.3536	0.0005	0.0286	42.8	0.0043
Skid Steer Loaders Composite		0.0534	0.2360	0.2686	0.0004	0.0207	30.3	0.0048
Surfacing Equipment	50	0.0513	0.1441	0.1411	0.0002	0.0128	14.1	0.0046
	120	0.1040	0.4251	0.6895	0.0007	0.0557	63.8	0.0094
	175	0.0950	0.4745	0.8195	0.0010	0.0422	85.8	0.0086
	250	0.1095	0.3526	1.1993	0.0015	0.0413	135	0.0099
	500	0.1631	0.6813	1.7819	0.0022	0.0622	221	0.0147
	750	0.2601	1.0660	2.8642	0.0035	0.0986	347	0.0235
Surfacing Equipment Composite		0.1362	0.5467	1.3678	0.0017	0.0512	166	0.0123
Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	11.9	0.0011
	25	0.0237	0.0808	0.1501	0.0002	0.0060	19.6	0.0021

Table 48
SCAB Fleet Average Emission Factors (Diesel)

2012

Air Basin	SC

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM	(lb/hr) CO2	(lb/hr) CH4
	50	0.1195	0.3565	0.3179	0.0004	0.0302	31.6	0.0108
	120	0.1233	0.5204	0.7534	0.0009	0.0706	75.0	0.0111
	175	0.1575	0.8008	1.2212	0.0016	0.0717	139	0.0142
	250	0.1205	0.3447	1.3019	0.0018	0.0402	162	0.0109
Sweepers/Scrubbers Composite		0.1278	0.5215	0.7403	0.0009	0.0576	78.5	0.0115
Tractors/Loaders/Backhoes	25	0.0199	0.0662	0.1250	0.0002	0.0061	15.9	0.0018
	50	0.1006	0.3305	0.3030	0.0004	0.0267	30.3	0.0091
	120	0.0760	0.3557	0.4910	0.0006	0.0432	51.7	0.0069
	175	0.1058	0.5866	0.8294	0.0011	0.0478	101	0.0095
	250	0.1264	0.3755	1.2813	0.0019	0.0415	172	0.0114
	500	0.2386	0.7714	2.2621	0.0039	0.0784	345	0.0215
	750	0.3611	1.1563	3.5105	0.0058	0.1199	517	0.0326
Tractors/Loaders/Backhoes Composite		0.0862	0.3824	0.5816	0.0008	0.0435	66.8	0.0078
Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	8.5	0.0009
	25	0.0398	0.1355	0.2519	0.0004	0.0101	32.9	0.0036
	50	0.1656	0.4176	0.3536	0.0004	0.0374	32.9	0.0149
	120	0.1354	0.4732	0.8257	0.0008	0.0709	64.9	0.0122
	175	0.2050	0.8694	1.6306	0.0016	0.0901	144	0.0185
	250	0.2483	0.7418	2.3854	0.0025	0.0951	223	0.0224
	500	0.3135	1.4011	3.0220	0.0031	0.1190	311	0.0283
	750	0.5949	2.6307	5.8034	0.0059	0.2259	587	0.0537
Trenchers Composite		0.1507	0.4749	0.6995	0.0007	0.0582	58.7	0.0136
Welders	15	0.0111	0.0425	0.0660	0.0001	0.0045	6.2	0.0010
	25	0.0224	0.0609	0.1044	0.0001	0.0068	11.3	0.0020
	50	0.1071	0.2854	0.2637	0.0003	0.0260	26.0	0.0097
	120	0.0708	0.2687	0.4376	0.0005	0.0387	39.5	0.0064
	175	0.1183	0.5475	0.9688	0.0011	0.0531	98.2	0.0107
	250	0.0909	0.2704	1.0791	0.0013	0.0329	119	0.0082
	500	0.1154	0.4072	1.3538	0.0016	0.0431	168	0.0104
Welders Composite		0.0703	0.2150	0.2702	0.0003	0.0243	25.6	0.0063

Source: File offroadEF07_25.xls, downloaded from http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

Table 49

Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

Vehicle Class:

Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model, taking the weighted average of vehicle types and simplifying into two categories: **Passenger Vehicles & Delivery Trucks.**

These emission factors can be used to calculate on-road mobile source emissions for the vehicle categories listed in the tables below, by use of the following equation:

Emissions (pounds per day) = N x TL x EF

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

This methodology replaces the old EMFAC emission factors in Tables A-9-5-J-1 through A-9-5-L in Appendix A9 of the current SCAQMD CEQA Handbook. All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear.

Scenario Year: **2012**

All model years in the range 1968 to 2012

Passenger Vehicles (pounds/mile)	
CO	0.00765475
NOx	0.00077583
ROG	0.00079628
SOx	0.00001073
PM10	0.00008979
PM2.5	0.00005750
CO2	1.10152540
CH4	0.00007169

Delivery Trucks (pounds/mile)	
CO	0.01545741
NOx	0.01732423
ROG	0.00223776
SOx	0.00002667
PM10	0.00064975
PM2.5	0.00054954
CO2	2.76628414
CH4	0.00010668

Source: File onroadEF07_26.xls, downloaded from http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html

Table 50
Highest (Most Conservative) EMFAC2007 (version 2.3)
Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks
Projects in the SCAQMD (Scenario Years 2007 - 2026)
Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

Vehicle Class:
Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model and extracting the **Heavy-Heavy-Duty Diesel Truck (HHDT)** Emission Factors.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle/emission categories listed in the tables below, by use of the following equation:

Emissions (pounds per day) = N x TL x EF

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

The **HHDT-DSL** vehicle/emission category accounts for all emissions from heavy-heavy-duty diesel trucks, including start, running and idling exhaust. In addition, ROG emission factors account for diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors account for tire and brake wear.

The **HHDT-DSL, Exh** vehicle/emission category includes only the exhaust portion of PM10 & PM2.5 emissions from heavy-heavy-duty diesel trucks.

Scenario Year: **2012**
All model years in the range 1968 to 2012

HHDT-DSL (pounds/mile)	
CO	**0.01021519**
NOx	**0.03092379**
ROG	**0.00252764**
SOx	**0.00004042**
PM10	**0.00149566**
PM2.5	**0.00129354**
CO2	**4.21590774**
CH4	**0.00011651**

HHDT-DSL, Exh (pounds/mile)	
PM10	**0.00135537**
PM2.5	**0.00124837**

Source: File onroadEFHHDT07_26.xls, downloaded from http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html

Table 51
Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
1/2-Ton Pick-up Truck, 4x4	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
1/2-Ton Pick-up Truck, 4x4	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Tool Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Tool Truck	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Pickup 4x4	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Pickup 4x4	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Survey Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Survey Truck	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
10-cu. yd. Concrete Mixer Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
10-cu. yd. Concrete Mixer Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
10-cu. yd. Dump Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
10-cu. yd. Dump Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
1-Ton Crew Cab Flat Bed, 4x4	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
1-Ton Crew Cab Flat Bed, 4x4	Unpaved	7.5	5	1.24E+00	1.24E-01	57%	5.32E-01	5.32E-02
1-Ton Crew Cab, 4x4	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
1-Ton Crew Cab, 4x4	Unpaved	7.5	5	1.24E+00	1.24E-01	57%	5.32E-01	5.32E-02
22-Ton Manitex	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
22-Ton Manitex	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
3/4-Ton Pick-up Truck, 4x4	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
3/4-Ton Pick-up Truck, 4x4	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
30-Ton Crane Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
30-Ton Crane Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
3 Drum Straw Line Puller	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
3 Drum Straw Line Puller	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
40' Flat Bed Truck/Trailer	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
40' Flat Bed Truck/Trailer	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
80ft. Hydraulic Manlift/Bucket Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
80ft. Hydraulic Manlift/Bucket Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Aggregate Base Delivery Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Aggregate Base Delivery Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Asphalt Delivery Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Asphalt Delivery Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Auger Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Auger Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Boom Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Boom Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Bucket Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Bucket Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Carry-all Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Carry-all Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Concrete Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Concrete Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Crew Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Crew Truck	Unpaved	7.5	5	1.24E+00	1.24E-01	57%	5.32E-01	5.32E-02
Crewcab Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Crewcab Truck	Unpaved	7.5	5	1.24E+00	1.24E-01	57%	5.32E-01	5.32E-02
Crushed Rock Delivery Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Crushed Rock Delivery Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Dump Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Dump Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Delivery Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Delivery Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Dump Truck (Trash)	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Dump Truck (Trash)	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02

Table 51
Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Extendable Flat Bed Pole Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Extendable Flat Bed Pole Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Flat Bed Truck/Trailer	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Flat Bed Truck/Trailer	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Flatbed Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Flatbed Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Foreman Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Foreman Truck	Unpaved	7.5	5	1.24E+00	1.24E-01	57%	5.32E-01	5.32E-02
Line Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Line Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Low Bed Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Low Bed Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Lowboy Truck/Trailer	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Lowboy Truck/Trailer	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Maintenance Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Maintenance Truck	Unpaved	7.5	10	1.69E+00	1.69E-01	57%	7.26E-01	7.26E-02
Pumper/Tanker Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Pumper/Tanker Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Reel Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Reel Truck	Unpaved	7.5	10	1.69E+00	1.69E-01	57%	7.26E-01	7.26E-02
Rodder Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Rodder Truck	Unpaved	7.5	10	1.69E+00	1.69E-01	57%	7.26E-01	7.26E-02
Splice Lab Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Splice Lab Truck	Unpaved	7.5	10	1.69E+00	1.69E-01	57%	7.26E-01	7.26E-02
Splicing Lab	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Splicing Lab	Unpaved	7.5	10	1.69E+00	1.69E-01	57%	7.26E-01	7.26E-02
Splicing Rig	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Splicing Rig	Unpaved	7.5	10	1.69E+00	1.69E-01	57%	7.26E-01	7.26E-02
Stake Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Stake Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Static Truck/Tensioner	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Static Truck/Tensioner	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Tool Trailer	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Tool Trailer	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Troubleman Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Troubleman Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Truck, Semi Tractor	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Truck, Semi Tractor	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Van	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Van	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Water Truck	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Water Truck	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Wire Truck/Trailer	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Wire Truck/Trailer	Unpaved	7.5	17	2.14E+00	2.14E-01	57%	9.22E-01	9.22E-02
Worker Commute	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Worker Commute	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Subtransmission Line Inspection	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Subtransmission Line Inspection	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02
Substation Site Visit	Paved	0.035	3.2	8.01E-04	0.00E+00	0%	8.01E-04	0.00E+00
Substation Site Visit	Unpaved	7.5	3.2	1.01E+00	1.01E-01	57%	4.35E-01	4.35E-02

[a] Paved road silt loading from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997) for collector roads, http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9.pdf
Unpaved road silt content from SCAQMD CEQA Handbook, (1993) Table A9-9-E-1 for overburden

[b] Average paved on-road vehicle weight in Riverside County from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

Table 51
Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]

Unpaved worker commuting weight on access road assumed to be same as paved road weight

Unpaved weight for other trucks is based on upper limit of 33,000 lbs for medium heavy-duty trucks.

[c] Equations:

$EF(paved) = k_p (sL/2)^{0.65} (W/3)^{1.5} - C$ Ref: AP-42, Section 13.2.1, "Paved Rods," November 2006

$EF (unpaved) = k_u (s/12)^a (W/3)^b$ Ref: AP-42, Section 13.2.2, "Unpaved Rods," November 2006

Constants:

k_p =	0.016	(Particle size multiplier for PM10)
	0.0024	(Particle size multiplier for PM2.5)
C =	0.00047	(Exhaust, brake wear and tire wear adjustment, PM10)
	0.00036	(Exhaust, brake wear and tire wear adjustment, PM2.5)
k_u =	1.5	(Particle size multiplier for PM)
	0.15	(Particle size multiplier for PM2.5)
a =	0.9	for PM10
	0.9	for PM2.5
b =	0.45	for PM10
	0.45	for PM2.5

[d] Control efficiency from limiting speeds on unpaved roads to 15 mph, from Table XI-A, Mitigation Measure Examples, Fugitive Dust from Construction & Demolition, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html

[e] Controlled emission factor [lb/mi] = Uncontrolled emission factor [lb/mi] x (1 - Control efficiency [%] / 100)

Table 52
Fugitive Dust Emission Factors
Soil Dropping During Excavation

Emission Factor [lb/cu. yd] = 0.0011 x (mean wind speed [mi/hr] / 5)$^{1.3}$ / (moisture [%] / 2)$^{1.4}$ x (number drops per ton) x (density [ton/cu. yd])
Reference: AP-42, Equation (1), Section 13.2.4, November 2006

Parameter	Value	Basis
Mean Wind Speed	12	SCAQMD CEQA Air Quality Handbook (1993), Table 9-9-G, default
Moisture	10.6	Preliminary geotechnical investigation of substation site
Number Drops	4	Assumption
Soil Density	1.215	Table 2.46, Handbook of Solid Waste Management

PM10 Emission Factor (Uncontrolled)	1.62E-03	lb/cu. yd
Reduction from Watering Twice/Day[b]	0%	
Controlled PM10 Emission Factor	1.62E-03	lb/cu. yd
Controlled PM2.5 Emission Factor[a]	3.36E-04	lb/cu. yd

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

[b] Watering is assumed to be used to maintain moist conditions, so no further reduction from watering is included.

Emissions [pounds per day] = Controlled emission factor [pounds per cubic yard] x Volume soil handled [cubic yards per day]

Storage Pile Wind Erosion

Emission Factor [lb/day-acre] = 0.85 x (silt content [%] / 1.5) x (365 / 235) x (percentage of time unobstructed wind exceeds 12 mph / 15)
Reference: SCAQMD CEQA Air Quality Handbook (1993), Table 9-9-E

Parameter	Value	Basis
Silt Content	26.7	Preliminary geotechnical investigation of substation site
Pct. time wind > 12 mph	100	Worst-case assumption

PM10 Emission Factor (Uncontrolled)	156.7	lb/day-acre
Reduction from Watering Twice/Day	90%	Control efficiency from watering storage pile by hand at a rate of 1.4 gallons/hour-yard^2, Table XI-B, Mitigation Measure Examples, Fugitive Dust from Materials Handling, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html
Controlled PM10 Emission Factor	15.7	lb/day-acre
Controlled PM2.5 Emission Factor[a]	3.3	lb/day-acre

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per acre-day] x Storage pile surface area [acres]

Bulldozing, Scraping and Grading

Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	26.7	Preliminary geotechnical investigation of substation site
Moisture	10.6	Preliminary geotechnical investigation of substation site

PM10 Emission Factor (Uncontrolled)	3.797	lb/hr
Reduction from Watering Twice/Day	61%	Control efficiency from watering three times per day, Table XI-A, Mitigation Measure Examples, Fugitive Dust from Construction & Demolition, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html
Controlled PM10 Emission Factor	1.481	lb/hr
Controlled PM2.5 Emission Factor[a]	0.308	lb/hr

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

[b] Watering is assumed to be used to maintain moist conditions, so no further reduction from watering is included.

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing, scraping or grading time [hours/day]

Table 1
Alternative 2 with Road Dust Mitigation
Construction Emissions Summary
Total Daily Criteria Pollutant Emissions by Component

Phase	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Substation Construction						
Survey	0.19	1.85	0.19	0.00	0.62	0.05
Grading	11.63	52.09	117.60	0.16	29.51	9.10
Fencing	0.65	4.53	3.55	0.01	1.59	0.35
Civil	3.78	26.62	32.41	0.05	3.84	1.83
Substation MEER	0.26	2.30	0.71	0.00	1.11	0.12
Electrical	0.96	41.64	3.94	0.01	1.31	0.32
Wiring	0.27	11.14	0.48	0.00	0.29	0.04
Transformers	0.99	14.35	6.32	0.01	1.58	0.40
Maintenance Crew Equipment Check	0.12	1.14	0.12	0.00	0.47	0.04
Testing	0.11	1.03	0.10	0.00	0.24	0.02
Asphalting	4.82	16.58	28.54	0.04	3.53	1.56
Landscaping	1.96	9.05	15.14	0.02	2.18	0.79
Irrigation	2.15	8.53	5.09	0.01	0.95	0.45
Distribution Construction						
Civil	4.27	16.34	41.78	0.06	2.26	1.47
Electrical	3.43	14.15	26.75	0.04	1.53	0.97
Subtransmission Source Line Construction						
Survey	0.22	2.11	0.21	0.00	1.05	0.10
Marshalling Yard	0.99	5.42	7.15	0.01	0.58	0.32
Right-of-Way Clearing	3.10	14.05	24.96	0.03	29.23	5.86
Roads and Landing Work	12.57	51.16	138.21	0.18	155.66	24.50
Guard Structure Installation	2.73	12.13	24.57	0.04	9.84	1.76
Existing Wood Poles Removal	2.16	9.30	17.11	0.02	7.07	1.30
Tubular Steel Pole Foundations Installation	4.83	21.86	50.14	0.07	36.96	5.41
Wood Pole Haul	1.30	5.90	10.81	0.02	3.17	0.64
Wood Pole Assembly	2.43	11.50	17.64	0.03	6.26	1.28
Wood Pole Installation	3.43	16.31	31.82	0.05	9.30	1.92
Steel Pole Haul	1.30	5.90	10.81	0.02	3.17	0.64
Steel Pole Assembly	2.43	11.50	17.64	0.03	6.26	1.28
Steel Pole Erection	2.25	10.84	16.57	0.02	6.16	1.19
Conductor Installation	10.12	44.18	107.25	0.15	29.21	5.75
Guard Structure Removal	2.35	10.57	20.52	0.03	7.98	1.46
Restoration	2.29	10.81	17.17	0.03	16.03	3.22
Telecommunications Construction						
Control Building Communications Room	0.24	2.27	0.45	0.00	0.26	0.02
Roads and Landing Work	3.64	15.28	28.58	0.04	43.70	7.59
Overhead Cable Installation	2.74	12.72	29.52	0.04	31.54	3.89
Underground Facility Installation	1.14	6.33	5.54	0.01	0.80	0.42
Underground Cable Installation	2.95	12.25	28.20	0.05	1.28	0.90
Optical Systems Installation at Other Locations	0.57	5.51	0.56	0.01	0.64	0.04
Nuevo Substation Demolition						
Civil	1.47	8.17	10.40	0.02	0.99	0.67
Electrical	0.80	30.96	4.29	0.01	0.56	0.27
Maintenance Crew Equipment Check	0.11	1.01	0.10	0.00	0.12	0.01
Testing	0.11	1.01	0.10	0.00	0.24	0.02
Model P.T. Substation Demolition						
Civil	1.04	6.00	6.46	0.01	0.73	0.43
Electrical	3.47	14.63	30.57	0.04	1.53	1.42

Notes:
VOC = volatile organic compounds
CO = carbon monoxide
NOX = nitrogen oxides
SOX = sulfur oxides
PM10 = suspended particulate matter measuring less than 10 microns
PM2.5 = suspended particulate matter measuring less than 2.5 micron
lb/day = pounds per day
MEER = mechanical and electrical equipment room

Table 2
Alternative 2 with Road Dust Mitigation
Construction Emissions Summary
Total Daily Criteria Pollutant Emissions for Overlapping Construction Phases

Group[a]	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Substation Construction						
Survey	0.19	1.85	0.19	0.00	0.62	0.05
Grading	11.63	52.09	117.60	0.16	29.51	9.10
Civil, Fencing	4.43	31.15	35.96	0.06	5.43	2.18
MEER, Electrical, Wiring, Transformers, Equipment Check, Testing, Asphalting, Landscaping, Irrigation	11.63	105.76	60.43	0.10	11.66	3.72
Maximum	**11.63**	**105.76**	**117.60**	**0.16**	**29.51**	**9.10**
Distribution Construction						
All	7.70	30.49	68.54	0.11	3.79	2.45
Maximum	**7.70**	**30.49**	**68.54**	**0.11**	**3.79**	**2.45**
Subtransmission Source Line Construction						
Marshalling Yard, Survey	1.21	7.53	7.37	0.01	1.63	0.41
Marshalling Yard, Right-of-Way Clearing, Roads and Landing Work	16.66	70.63	170.32	0.23	185.46	30.68
Marshalling Yard, Tubular Steel Pole Foundations Installation	5.82	27.28	57.30	0.09	37.53	5.72
Marshalling Yard, Steel Pole Haul	2.29	11.32	17.96	0.03	3.75	0.95
Marshalling Yard, Steel Pole Assembly	3.42	16.91	24.79	0.04	6.84	1.59
Marshalling Yard, Steel Pole Erection	3.24	16.26	23.72	0.04	6.74	1.50
Marshalling Yard, Wood Pole Haul	2.29	11.32	17.96	0.03	3.75	0.95
Marshalling Yard, Wood Pole Assembly	3.42	16.91	24.79	0.04	6.84	1.59
Marshalling Yard, Wood Pole Installation	4.42	21.73	38.98	0.06	9.88	2.24
Marshalling Yard, Existing Wood Poles Removal, Guard Structure Installation	5.88	26.84	48.83	0.07	17.49	3.37
Marshalling Yard, Conductor Installation	11.11	49.60	114.40	0.17	29.79	6.07
Marshalling Yard, Guard Structure Removal	3.34	15.99	27.67	0.04	8.56	1.78
Marshalling Yard, Restoration	3.28	16.23	24.32	0.04	16.61	3.53
Maximum	**16.66**	**70.63**	**170.32**	**0.23**	**185.46**	**30.68**
Telecommunications Construction						
Roads and Landing Work	3.64	15.28	28.58	0.04	43.70	7.59
Control Building Communications Room, Overhead Cable Installation, Underground Facility Installation, Underground Cable Installation, Optical Systems Installation at Other Locations	7.64	39.08	64.27	0.11	34.52	5.27
Maximum	**7.64**	**39.08**	**64.27**	**0.11**	**43.70**	**7.59**
CONSTRUCTION MAXIMUM DAILY[b]	**43.63**	**245.97**	**420.73**	**0.60**	**262.47**	**49.81**
Nuevo Substation Demolition						
Civil	1.47	8.17	10.40	0.02	0.99	0.67
Electrical	0.80	30.96	4.29	0.01	0.56	0.27
Maintenance Crew Equipment Check	0.11	1.01	0.10	0.00	0.12	0.01
Testing	0.11	1.01	0.10	0.00	0.24	0.02
Maximum	**1.47**	**30.96**	**10.40**	**0.02**	**0.99**	**0.67**
Model P.T. Substation Demolition						
Civil	1.04	6.00	6.46	0.01	0.73	0.43
Electrical	3.47	14.63	30.57	0.04	1.53	1.42
Maximum	**3.47**	**14.63**	**30.57**	**0.04**	**1.53**	**1.42**
DEMOLITION MAXIMUM DAILY[c]	**3.47**	**30.96**	**30.57**	**0.04**	**1.53**	**1.42**
PEAK DAILY[d]	**43.63**	**245.97**	**420.73**	**0.60**	**262.47**	**49.81**
SCAQMD Significance Threshold	**75**	**555**	**100**	**150**	**150**	**55**

[a] The construction phases within a group could all occur at the same time.

[b] Construction maximum daily emissions are the sum of the maximum daily emissions during construction of the substation, the distribution facilities, the subtransmission source lines and the telecommunications facilities, since construction of all of these components could occur at the same time.

[c] Demolition maximum daily emissions are the maximum daily emissions during demolition of the Nuevo Substation or the Model P.T. Substation.

[d] Peak daily emissions are the greater of the maximum daily emissions during construction and during demolition, since demolition would occur after construction is completed.

APPENDIX D

Hazards and Hazardous Materials

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PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Proposed SCE Lakeview Substation Property
Lakeview, California

PREPARED FOR

Southern California Edison Company
Corporate Environmental Health & Safety
Environmental Engineering
2131 Walnut Grove Avenue
Rosemead, CA 91770

PREPARED BY

Rubicon Engineering Corporation
20 Corporate Park, Suite 285
Irvine, California 92606

Project No. 1009.27

RUBICON
Engineering Corporation

October 26, 2009 Project No. 1009.27

Ms. Sonia Sorensen
Environmental Engineer
SOUTHERN CALIFORNIA EDISON COMPANY
Corporate Environmental Health & Safety
Environmental Engineering
2131 Walnut Grove Avenue
Rosemead, CA 91770

Phase I Environmental Site Assessment Report
Proposed SCE Lakeview Substation Property
Lakeview, California

Dear Ms. Sorensen:

Enclosed is a copy of the Phase I Environmental Site Assessment Report for the subject property to be acquired by Southern California Edison Company in Lakeview, California. If you have any questions regarding this report or require additional information, please do not hesitate to call.

Respectfully submitted,

RUBICON ENGINEERING CORPORATION

Mohsen Mehran, Ph.D.
Project Manager

P:\1009 SCE\1009.27 Lakeview Substation\Phase I Report

20 Corporate Park, Suite 285 • Irvine, California 92606 • Phone (949) 296-1177 Fax (949) 296-1178

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LIST OF ABBREVIATIONS AND ACRONYMS

AAI	All Appropriate Inquiries
AIRS	Aerometric Information Retrieval System
APN	Assessor Parcel Number
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BRS	Biennial Reporting System
CDL	Clandestine Drug Labs
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Index System
CESQG	Conditionally Exempt Small Quantity Generators
CFR	Code of Federal Regulations
CHMIRS	California Hazardous Material Incident Report System
CRE	Corporate Real Estate
DOD	Department of Defense
DOGGR	California Division of Oil, Gas & Geothermal Resources
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EDR	Environmental Data Resources, Inc.
EMI	Emissions Inventory Data
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
EVMWD	Elsinore Valley Municipal Water District
FEMA	Federal Emergency Management Agency
FFIS	Federal Facilities Information System
FID	Facility Inventory Database
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS	Facility Index System/Facility Registry System
FRDS	Federal Reporting Data System
FUDS	Formerly Used Defense Sites
FURS	Federal Underground Injection Control
HMIRS	Hazardous Materials Information Reporting System
HMMD	Hazardous Materials Management Division
ICIS	Integrated Compliance Information System
LDS	Land Disposal sites
LQG	large quantity generator

LIST OF ABBREVIATIONS AND ACRONYMS (cont'd)

LQG	large quantity generator
LUCIS	Land Use Control Information System
LUST	Leaking Underground Storage Tank
MCS	Military Cleanup sites
MLTS	Material Licensing Tracking System
NFRAP	No Further Remedial Action Planned
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
ODI	Open Dump Inventory
OPS	Office of Pipeline Safety
OS-RUR	Open Space Rural
PADS	PCB Activity database System
PCB	poly-chlorinated biphenyl
PCS	Permit Compliance System
PEA	Preliminary Environmental Assessment
RAATS	RCRA Administrative Action Tracking System
RADINFO	Radiation Information Database
RCBSD	Riverside County Building & Safety Department
RCDEH	Riverside County Department of Environmental Health
RCRA	Resource Conservation and Recovery Act
ROD	Records of Decision
RR	Rural Residential
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCE	Southern California Edison
SCRD	State Coalition for Remediation of Drycleaners
SQG	small quantity generator
SSTS	Section Seven Tracking Systems
SWAT	Solid Waste Assessment Test
SWEEPS	Statewide Environmental Evaluation and Planning System
SWIS	Solid Waste Information System
SWRCB	State Water Resources Control Board
TBA	Targeted Brownfields Assessment
TPCA	Toxic Pits Cleanup Act
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substance Control Act
TSD	treatment, storage and disposal
UMTRA	Uranium Mill Tailings Remedial Action
USGS	U.S. Geological Survey

LIST OF ABBREVIATIONS AND ACRONYMS (cont'd)

UST	underground storage tank
VCP	Voluntary Cleanup Program
WDS	Waste Discharge System
WIP	Well Investigation Program
WMUDS	Waste Management Unit Database System

EXECUTIVE SUMMARY

Southern California Edison Company (SCE) is considering acquiring approximately 5.78 acres of property (the site) located on the southwestern corner of 10th Street and Reservoir Avenue in Lakeview, California, to construct a new substation. Rubicon Engineering Corporation (Rubicon) has conducted a Phase I Environmental Site Assessment (ESA) on behalf of SCE to identify, to the extent feasible, recognized environmental conditions in connection with the site.

The scope of the Phase I ESA included review of physiographic information including regional geology and hydrogeology; review of site history and land use within the site vicinity; review of federal, state, tribal, and local government agency records; site reconnaissance; and interviews with the land owner and other personnel.

Based on historical information available during this Phase I ESA, the site and vicinity appear to have been used for agricultural purposes dating back to at least 1938. An interview with Mr. Brent Lunt of Agri-Empire indicated that the site has always been used for farming. Currently, the site is used for growing potatoes. There are no oil and gas wells located within a mile radius of the site.

From the site reconnaissance, a concrete slab with an adjoined natural gas line was observed in the northeastern corner of the site. According to Mr. Lunt, a natural gas engine was used on top of the concrete slab. There were small stains observed on top of the concrete slab, but the stains were considered *de minimis* conditions. Next to the concrete slab, an abandoned water well was observed to be covered with a metal plate. According to the property owner, the well was abandoned because the groundwater water throughout the valley, underlying the site, had a high selenium concentration, and it was not acceptable for agriculture purposes. However, the well was not properly abandoned. Since the use of the water well is no longer intended, the well should be properly abandoned under Riverside County Environmental Health requirements. A broken tip of an underground pipe was also observed near the well.

Data gap identified during the preparation of this Phase I ESA include unreturned owner questionnaire. However, historical information obtained from topographic maps, aerial photographs, and interviews provide adequate information related to the site's historical use. It is the opinion of the Environmental Professional that this data gap does not affect the findings of this Phase I ESA.

Rubicon performed the Phase I ESA of the site according to the American Society for Testing and Materials (ASTM) E1527-05 and All Appropriate Inquiries (AAI) in conformance with the standards and practices set forth in the Code of Federal Regulations (CFR), Title 40, Part 312. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the site.

1.0 INTRODUCTION

This report documents a Phase I Environmental Site Assessment (ESA) for the Southern California Edison Company's (SCE's) proposed Lakeview Substation Property (the site) located on the southwestern corner of 10th Street and Reservoir Avenue in Lakeview, California. A site location map is presented in Figure 1. A site and vicinity map showing the adjacent properties is presented in Figure 2. Rubicon has conducted the Phase I ESA on behalf of SCE to identify, to the extent feasible, recognized environmental conditions in connection with the site. SCE is considering acquiring the site to construct a new substation.

1.1 APPROACH

The approach adopted by Rubicon for the Phase I ESA is consistent with the ASTM Standard E1527-05 entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", and the 40 CFR, Part 312 titled "Standards and Practices for All Appropriate Inquiries; Final Rule", dated November 1, 2005. There were no exceptions to, or deletions from, the ASTM Practice E1527-05 during the preparation of this Phase I ESA. Rubicon's approach to the Phase I ESA included:

- Review of relevant background information, such as the site location relative to major man-made and natural landmarks, surrounding land use, and regional geology/hydrogeology.

- Review of California oil and gas records for the presence of oil and gas wells in the vicinity of the site.

- A compilation of site history and previous land uses based on a review of title records, historic aerial photographs dating back to the 1940's, historic topographic maps, available historic fire insurance maps, building permits, and city directories.

- Environmental lien search to identify environmental cleanup liens and other activities and use limitations, such as engineering and institutional controls.

- An assessment of the potential for the site to have been impacted by contaminants originating from off-site sources based on a review of federal, state, tribal, and local government agency records.

- An inspection of the site to identify recognized environmental conditions that may include indications of the improper handling, storage, or use of potentially hazardous materials. This task also includes interviews with property owners, tenants, and/or local agency personnel about hazardous materials handling and disposal records.

- An evaluation of the possible presence of hazardous materials at the site and/or in the subsurface environment beneath the site, with recommendations, if appropriate, for additional investigations or remediation.

1.2 LIMITATIONS

The Phase I ESA for the site was performed in accordance with current ASTM practices (ASTM, 2005). The resulting findings were based on the information available to Rubicon from the sources cited; however, Rubicon makes no warranty regarding the accuracy or completeness of the information available. This Phase I ESA excludes any evaluation of or with respect to asbestos, lead-based paint, radon, methane, lead in drinking water, endangered species, wetlands, geotechnical conditions or seismicity. Also, this report does not include evaluation of the potential impact of possible future activities on subsurface conditions or of undocumented activities on adjacent or nearby properties. Rubicon has conducted the Phase I ESA on behalf of SCE to help evaluate potential environmental liability associated with owning the site. SCE may rely upon the information provided in this Phase I ESA report for a period of 180 days from the date of issue. After 180 days, this Phase I ESA should be updated and, if appropriate, an addendum should be issued extending the period during which this report can be relied upon. Rubicon will not be liable for any consequential damages arising from the use of this Phase I ESA Report for other than its intended purpose or from unauthorized use by third parties.

1.3 REPORT ORGANIZATION

The remainder of this Phase I ESA Report is organized into six sections. Section 2.0 documents the various sources of information utilized during the Phase I ESA. Section 3.0 describes background and regional information regarding the site and surrounding areas. Section 4.0 presents the site history. Section 5.0 provides a summary of the information collected from record reviews for the site and surrounding areas. Section 6.0 presents the findings of the site reconnaissance and Section 7.0 presents a summary of findings and conclusions. Supporting information is contained in tables, figures, and appendices, all of which follow the text of this report. Appendix A presents selected historical topographic maps. Appendix B provides selected historical aerial photographs of the site. Appendix C contains the Environmental Data Resources (EDR) radius map report summarizing information available from a review of databases maintained by local, state, and federal government agencies. Appendix C also contains the EDR City Directory Abstract, EDR Sanborn® Map Report, and EDR Environmental Lien Search Report. Appendix D contains Phase I ESA questionnaire completed by the user. Photographs taken during the site visit are included in Appendix E. Appendix F contains the qualifications of the environmental professional conducting the Phase I ESA.

2.0 SOURCES OF INFORMATION FOR PHASE I ESA

Many sources of information were utilized in conducting the Phase I ESA for the site. The sources of information included historical topographic maps; historical aerial photographs; historical fire insurance maps; historical city directories; a walk-over survey of the site and adjoining properties; interviews and telephone conversations with current site owners; a review of records available at the site; a review of records available from selected local and state regulatory agencies; a review of databases maintained by local, state, and federal government agencies; and other records available from commercial sources.

2.1 TOPOGRAPHIC MAPS

Historical United States Geological Survey (USGS) topographic maps published between 1901 and 1973 were obtained from Environmental Data Resources, Inc. (EDR). The historical topographic maps, which have been scanned and annotated, are presented in Appendix A.

2.2 AERIAL PHOTOGRAPHS

To help understand the history of the site and past land use, historical aerial photographs published between 1938 and 2005 were obtained from EDR and reviewed. Copies of the aerial photographs are included in Appendix B in chronological order.

2.3 GOVERNMENT DATABASES

To document potential sources of contamination at or near the site, a government records search was conducted by EDR under contract to Rubicon. The search (EDR, September 18, 2009) included tribal, local, state, and federal records for the site and for other sites within ASTM standard radii of the facility. The records search is summarized in Section 5.0 and copies of EDR's reports are included in Appendix C. All of the databases searched by EDR had been updated within 90 days of the date the government version was made available.

2.4 FIRE INSURANCE MAPS

No Fire Insurance Maps are available for the area of the site.

2.5 HISTORICAL CITY DIRECTORY

Historical city directories for the site and surrounding areas from 1975 until 2007 were obtained from EDR and reviewed. The information is presented in Section 4.2, and a copy of the city directory report as received from EDR is included in Appendix C.

2.6 ENVIRONMENTAL LIEN SEARCH

An environmental lien search was conducted by EDR for the site. The results of the search are presented in Section 4.3 and a copy of the EDR report is included in Appendix C.

2.7 INTERVIEWS

Three people were interviewed in person or via telephone during the Phase I ESA. The information obtained during the interviews is presented in Section 6.3.

2.8 WALK-OVER SURVEY OF THE SITE

Rubicon personnel conducted a walk-over survey of the site on September 21, 2009. Information obtained during the walk-over survey is referenced, as appropriate, throughout the remainder of this report. Photographs taken during the walk-over survey are presented in Appendix E.

2.9 INFORMATION FROM LOCAL AND STATE AGENCIES

Rubicon contacted the following agencies to obtain files for the site:

- Riverside County Office of Assessor
- Riverside County Department of Environmental Health (RCDEH), Hazardous Material Management Division (HMMD)
- State Water Resources Control Board (SWRCB)
- Department of Toxic Substances Control (DTSC)

Information obtained from each of the above agencies is discussed in Section 5.2.

2.10 OTHER SOURCES

Rubicon utilized the worldwide web and other internet-based services to research information about the site and surrounding areas. These sources are referenced, as appropriate, throughout the remainder of this report.

2.11 OIL AND GAS RECORDS

To assess the possible presence of oil and/or natural gas wells within or near the site, Rubicon reviewed information available from the California Division of Oil, Gas, and Geothermal Resources (DOGGR), Department of the Interior Minerals Management Service. The available records indicate that there are no oil or gas wells within a one-mile radius of the site. A portion of the DOGGR Wildcat Map W1-7 for the site and vicinity is presented in Figure 3.

3.0 BACKGROUND INFORMATION

Background and regional information considered relevant to the subject ESA includes the site location, adjoining properties, the physiographic setting of the site, and regional geologic and hydrogeologic conditions.

3.1 SITE LOCATION AND DESCRIPTION

The site is a rectangular-shaped area covering approximately 5.78 acres of land located on the southwestern corner of 10th Street and Reservoir Avenue in Lakeview, California (Figure 1). The site is a northeastern portion of Assessor's Parcel Number (APN) 426-180-003. The site is composed of a farm land, currently used for growing potatoes. According to Riverside County Assessor's web records, the land use designation for the site is RR (Rural Residential).

3.2 ADJOINING PROPERTIES

NORTH

- The property to the north of the site is farm land.

EAST

- The property to the east of the site and a dirt road is mostly farm land. The property across 10th Street/Reservoir Avenue is a residential and includes a dwelling.

SOUTH

- The property to the south of the site and a dirt road is farm land

WEST

- The property to the west of the site is farm land.

3.3 TOPOGRAPHY

Based on a review of the USGS Lakeview Map (USGS, 1973), the ground surface elevations of the site is approximately 1,440 feet above mean seal level. See Appendix A.

3.4 REGIONAL GEOLOGY

The site is located in the Perris 7.5 minute quadrangle and is situated in the northern part of the Peninsular Ranges Province within the central part of the Perris block. This block is a relatively stable, rectangular in plan area located between the Elsinore and San Jacinto fault zones. The San Jacinto fault zone is considered to be the most seismically active fault zone in Southern California. A fault zone evaluation is beyond the scope of this report, but if it is desirable, Rubicon can provide you a report.

The site is immediately underlain by alluvial fan deposits and then by Cretaceous age and older basement rocks. The Cretaceous plutonic rocks are part of the composite Peninsular Ranges batholiths. A wide variety of intermediate composition granitic rocks are located in the vicinity of the site. These rocks are mainly of tonalitic composition but range from monzogranite to diorite. To the south and east in the higher elevations is the Melanocratic tonalite, a Lenticular masses of nearly black rock ranging from 50 to 100 percent biotite and hornblende.

The site is located near a formation contact of two alluvial fan deposits:

1) Old alluvial-fan deposits (late to middle Pleistocene) — Indurated, sandy alluvial fan deposits. Most are slightly to moderately dissected; reddish-brown. Some deposits include thin, discontinuous surface layer of Holocene alluvial-fan material.

2) Young alluvial-fan deposits (Holocene and latest Pleistocene) — Gray-hued cobble- and gravel-sand deposits derived from lithicly diverse sedimentary units present in San Timoteo Badlands.

San Jacinto River is to the west of the site. The river's headwaters are in San Bernardino National Forest, but the lower portion of the watershed is urban and agricultural land. The river flows about 10 miles from its source to Lake Hemet. Hemet Dam was built in 1895 to supply water to the city of Hemet. Downstream of the dam, the river continues northeast until it discharges into Mystic Lake, a couple of miles east of Lake Perris.

3.5 REGIONAL HYDROGEOLOGY

The San Jacinto Groundwater Basin underlies the site. The basin contains sediments that have filled valleys and underlying canyons incised into crystalline basement rock. Maximum depths of valley fill reach about 900 feet in the western and northern parts of the basin, but may exceed 5,000 feet in the eastern part of the basin between the Casa Loma and Claremont faults. Confined groundwater is found in the eastern part of the basin between the Casa Loma and Claremont fault (DWR, 2006).

Natural recharge to the basin is primarily from percolation of flow in the San Jacinto River and its tributary streams; less recharge is from infiltration of rainfall on the valley floor. The primary recharge area for the confined aquifers is found where the San Jacinto River and Bautista Creek enter the San Jacinto Valley. Natural recharge is augmented by spreading of State Water Project and reclaimed water through infiltration ponds in the upper reaches of the San Jacinto River. Percolation of water stored in Lake Perris has been an additional source of recharge since construction of the lake in the 1970s, and reclaimed water percolates through several storage ponds distributed throughout the valley. Artificial recharge can exceed natural recharge, particularly in years with low precipitation (DWR, 2006).

Prior to the extraction of groundwater from the basin, groundwater flow was generally toward the course of the San Jacinto River and westward out of the basin. High extraction rates have produced groundwater depressions and locally reversed the historical flow pattern. During the 1960s, groundwater levels in the western and central parts of the basin declined; whereas, in the

south-central part of the basin, they were moderately stable. During the 1970s through the 1990s, groundwater levels declined about 20 to 40 feet in the northern and southeastern parts of the basin and were relatively stable in the southern part of the basin. During the 1970s through the 1980s, groundwater levels rose 80 to 200 feet in the western part of the basin because of infiltration from Lake Perris. During 2001 and 2002, groundwater levels generally rose in the central part of the basin and declined in the northeastern and southern parts of the basin (DWR, 2006).

3.6 FLOODPLAIN INFORMATION

EDR searched the Federal Emergency Management Agency (FEMA) electronic database for floodplain information for the site. According to EDR's report, the site does not fall within 100-year or 500- year flood zones.

4.0 SITE HISTORY

The site history integrates information available from the sources outlined in Section 2.0, particularly the historical aerial photographs, historical topographic maps, and interviews.

4.1 HISTORICAL AERIAL PHOTOGRAPHS, SANBORN AND TOPOGRAPHIC MAPS

Six historical USGS topographic quadrangle maps from 1901 to 1973 were obtained and reviewed. Eight aerial photographs (flown between 1938 and 2005) of the site and the surrounding region were also reviewed. Sanborn Maps were not available for the area surrounding the site. The historical topographic map and aerial photographs are presented in Appendices A and B, respectively. Pertinent features observed on the maps and aerial photographs are summarized in chronological order, as follows:

1901: The 1901 topographic maps show much of the region to be undeveloped. The maps show a road that appears to be Lakeview Avenue near the site. The Southern California Rail Road Lakeview Line and San Jacinto River is identified at about 1.0 mile west of the site.

1938: The 1938 aerial photograph shows that the site and surrounding properties are farm land.

1943: The 1943 topographic map shows development of a few new roads and structures near the site.

1953: The 1953 aerial photograph and topographic map show a structure on the northeastern corner of the site. The aerial photograph shows the site and adjoining properties are still farm land. The topographic map shows an unknown pipeline running from north to south about 1.0 mile west of the site.

1967: The 1967 aerial photograph and topographic map show no significant changes at the site. Reservoir Avenue to the east has disappeared. Properties to the northeast have been developed with several building structures.

1973: The 1973 topographic map shows no significant changes from the 1967 topographic map.

1980: The 1980 aerial photograph shows no significant changes from the 1967 aerial photograph.

1989: The 1989 aerial photograph shows no changes at the site from the previous aerial photograph. Development of several buildings is observed in the site vicinity from the photograph.

1994: The 1994 aerial photograph shows no significant changes from the 1989 aerial photograph.

2002: The 2002 aerial photograph shows no significant changes from the 1994 aerial photograph.

2005: The 2005 aerial photograph show no significant changes from the 2002 aerial photograph.

4.2 CITY DIRECTORIES

EDR's historical city directory search revealed following information for 10th Street and Reservoir Avenue:

- 30490 10th Street:

Year	Uses	Source
2000	Residential	Haines Criss-Cross Directory
1995	Lakeview Ranch Supply Neview Feed	Haines Criss-Cross Directory
1991	Lakeview Ranch Prds	Haines Criss-Cross Directory
1985	T L C Horse Vanning	Haines Criss-Cross Directory
1975	Residential	Haines Criss-Cross Directory

- 30501 10th Street:

Year	Uses	Source
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory

- 30545 10th Street:

Year	Uses	Source
2000	Munoz Construction	Haines Criss-Cross Directory
1995	Munoz Construction	Haines Criss-Cross Directory

- 30645 10th Street:

Year	Uses	Source
2000	Residential	Haines Criss-Cross Directory

- 30021 Reservoir Avenue::

Year	Uses	Source
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory

1991	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory
1975	Residential	Haines Criss-Cross Directory

- 30090 Reservoir Avenue:

Year	Uses	Source
2007	No Return	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory
1991	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory

- 30099 Reservoir Avenue:

Year	Uses	Source
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory

- 30120 Reservoir Avenue:

Year	Uses	Source
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1991	No Return	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory

- 30175 Reservoir Avenue:

Year	Uses	Source
2000	Residential	Haines Criss-Cross Directory
1991	No Return	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory

4.3 ENVIRONMENTAL LIEN SEARCH

Rubicon requested an environmental lien search report for the site that includes a search of available land-title records for environmental cleanup liens and other activity and use limitations,

such as engineering controls and institutional controls. No environmental liens or other activity and use limitations were found. A quitclaim deed document for the property comprising the site, dated November 16, 2007, indicates that Riverpark Investor, LLC, a California Limited Liability Company remise, release and forever quitclaim to Sandra Pagliuso and Frank S. Lauda, Co-Trustees of The Frank Lauda, Jr. Trust, a California Trust.

5.0 RECORDS REVIEW

As part of the Phase I ESA, Rubicon subcontracted a search of government databases for the site and vicinity to EDR, as discussed in Section 2.0. Local agencies were contacted to conduct a review of files related to the site or adjacent properties. The findings from the reviews are discussed below.

5.1 SUMMARY OF FEDERAL, STATE, TRIBAL AND LOCAL AGENCY DATABASE RECORDS

Under subcontract to Rubicon, on September 18, 2009, EDR conducted a search of government records to document potential sources of contamination at or in the vicinity of the site. EDR's search included federal, state, local, tribal, and EDR proprietary records for the site and for facilities within varying radii of the site. Results of the EDR database reviews, including site names, addresses, and figures showing identified property locations, are compiled in the EDR reports. The EDR reports are presented in Appendix C.

5.1.1 Federal Government Records

A listing of federal government records searched, along with the search radius and description of each listing, is presented below. No facilities of concern were identified in the records searched.

- NPL (1.0 mile): The NPL database is a subset of the CERCLIS database and identifies more than 1,200 sites for priority cleanup under the Superfund Program. The NPL database contains no records pertaining to NPL facilities (active, proposed, or delisted) within 1.0 mile of the site.

- NPL Liens (target property): Federal Superfund Liens. Under the authority granted to the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens. The site was not listed in this database.

- CERCLIS (0.5 miles): The Comprehensive Environmental Response, Compensation, and Liability Index System (CERCLIS) database contains data on potential hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and private persons pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLIS database also contains sites that are either proposed for inclusion on, or currently on the NPL, and sites that are in the screening and assessment phase for possible inclusion on the NPL. No facilities within 0.5 miles of the site were listed in this database.

- CERC-NFRAP (0.5 miles): This database lists former CERCLIS sites for which no further remedial action is planned; hence, NFRAP. No facilities within 0.5 miles of the site were listed in this database.

- CORRACTS (1.0 mile): Identifies hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity. No facilities within 1.0 mile of the site were listed in this database.

- RCRIS (0.25 miles): The Resource Conservation and Recovery Information System includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. This includes treatment, storage or disposal (TSD) facilities within 0.25 miles of the site, large-quantity generators (LQG), small-quantity generators (SQG), and conditionally exempt small quantity generators within 0.25 miles of the site. No facilities within 0.25 miles of the site were listed in this database.

- US ENG CONTROLS (0.5 miles): This database includes sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health. No facilities within 0.5 miles of the site were listed in this database.

- US INST CONTROL (0.5 miles): This database is a listing of sites with institutional controls in place. This may include administrative measures such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. No facilities within 0.5 miles of the site were listed in this database.

- ERNS (target property): The Emergency Response and Notification System database records and stores information on reported releases of oil and hazardous substances. The site was not listed in this database.

- DOD (1.0 mile): This database consists of federally owned lands administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands. No facilities within 1.0 mile of the site were listed in this database.

- FUDS (1.0 mile): The listing includes locations of formerly used defense sites where the U.S. Army Corps of Engineers is actively working or will take necessary cleanup actions. There are no FUDS facilities within 1.0 mile of the site.

- US BROWNFIELDS (0.5 miles): Included in the listing are brownfields properties addressed by Targeted Brownfields Assessments (TBA). The TBA program is designed to help states, tribes, and municipalities minimize the uncertainties of contamination often associated with brownfields. EPA provides funding and/or technical assistance for environmental assessments to promote cleanup and redevelopment of brownfields. There are no US BROWNFIELDS facilities within 0.5 miles of the site.

- CONSENT (1.0 mile): The CONSENT database lists major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites and is released periodically by U.S. District Courts after settlements by parties to litigation matters. No facilities within 1.0 mile of the site were listed in this database.

- ROD (1.0 mile): Record of Decision documents mandate a permanent remedy at an NPL site and contain technical and health information to aid in the cleanup. The ROD database contains no records for facilities within 1.0 mile of the site.

- UMTRA (0.5 miles): Uranium Mill Tailings Sites. Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of sand-like material (mine tailings) remained after uranium had been extracted from the ore. In 1978, twenty four inactive uranium mill tailing sites in various states were targeted for cleanup by the Department of Energy. No facilities within 0.5 miles of the site were listed in this database.

- ODI (0.5 miles): The Open Dump Inventory is a listing of disposal facilities that do not comply with one or more of the Part 257 or Part 258 Subtitle D criteria maintained by the EPA. There are no ODI facilities within 0.5 miles of the site.

- TRIS (target property): The Toxic Chemical-Release Inventory System identifies facilities that release toxic chemicals to the air, water, and/or land in reportable quantities under the Superfund Amendments and Reauthorization Act (SARA), Title III, Section 313. The site was not listed in the TRIS database.

- TSCA (target property): The Toxic Substances Control Act identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substances Inventory list. The site was not listed in the TSCA database.

- FTTS (target property): The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/Toxic Substance Control Act (TSCA) Tracking System tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA, and the Emergency Planning and Community Right-to-

Know Act (EPCRA). A HIST FTTS database contains historical FTTS listings since some EPA regions are closing out records. The site was not listed in the current or historical FTTS databases.

- SSTS (target property): The Federal Insecticide, Fungicide, and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the EPA by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year. The site was not listed in the SSTS database.

- ICIS (target property): The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program and the unique needs of the National Pollutant Discharge Elimination System program. The site was not listed in the ICIS database.

- DOT OPS (target property): This database tracks incident and accident data related to the Department of Transportation, Office of Pipeline Safety. The site was not listed in the DOT OPS database.

- RADINFO (target property): The Radiation Information Database (RADINFO) contains information about facilities that are regulated by EPA. The site was not listed in the RADINFO database.

- LUCIS (0.5 miles): The Land Use Control Information System (LUCIS) database contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties. There are no LUCIS facilities within 0.5 miles of the site.

- CDL (target property): This database contains a list of clandestine drug lab locations as maintained by the United States Department of Justice. The site was not listed in the CDL database.

- PADS (target property): The polychlorinated biphenyl (PCB) Activity Database System identifies generators, transporters, commercial storage facilities and/or brokers, and disposers of PCBs who are required to notify EPA of such activities. The site was not listed in the PADS database.

- MLTS (target property): The Material Licensing Tracking System is maintained by the Nuclear Regulatory Commission (NRC) and lists sites that store or use radioactive materials subject to NRC licensing requirements. The site was not listed in the MLTS database.

- MINES (0.25 miles): Master index file of mines is maintained by the Department of Labor, Mine Safety and Health Administration. The records indicate there are no MINES facilities within 0.25 miles of the site.

- FINDS (target property): The Facility Index System contains both facility information and "pointers" to other sources that contain more detail. These include RCRIS, PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), CERCLIS, DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activitiy Data System). The site was not listed in the FINDS database.

- RAATS (target property): The Resource Conservation and Recovery Act (RCRA) Administrative Action Tracking System database contains records based on enforcement actions under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. The site was not listed in the RAATS database.

5.1.2 State and Local Government Records

A listing of state and local government records searched, along with the search radii and description of each listing is presented below. Facilities identified in the searched records are summarized at the end of this section.

- HIST CAL-SITES (1.0 mile): Includes confirmed and potential hazardous substance release sites. DTSC's Annual Work Plan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup. The CAL-SITES database is no longer updated by DTSC as it has been replaced by ENVIROSTOR. The HIST CAL-SITES database contains no records for facilities within 1.0 mile of the site.

- CA BOND EXP PLAN (1.0 mile): The Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of hazardous substance cleanup bond act funds. It is not updated. The CA BOND EXP PLAN database contains no records for facilities within 1.0 mile of the site.

- SCH (0.25 miles): This database contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the Cal Sites category depending on the level of threat to public health and safety or the environment they pose. The SCH database contains no records for facilities within 0.25 miles of the site.

- TOXIC PITS (1.0 mile): Toxic Pits Cleanup Act Sites identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. There are no TOXIC PITS facilities within 1.0 mile of the site.

- ENVIROSTOR (1.0 mile): The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in HIST CAL-SITES, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites. **One facility was found approximately 0.52 miles northeast of the site.**

- SWF/LF State Landfill (0.5 miles): SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites. No facilities within 0.5 miles of the site were listed in this database.

- CA WDS (target property): This database contains records pertaining to sites that have been issued "Waste Discharge Requirements" for discharges of waste to waters of the state. The site was not listed in the CA WDS database.

- NPDES (target property): NPDES Permits Listing. A listing of NPDES permits, including storm water. The site was not listed in the NPDES database.

- WMUDS/SWAT (0.5 miles): The Waste Management Unit Database System is used by the SWRCB staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information. The records indicate there are no WMUDS/ SWAT facilities within 0.5 miles of the site.

- CORTESE (0.5 miles): "Cortese" Hazardous Waste & Substances Sites List. The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

- HIST CORTESE (0.5 miles): Hazardous Waste & Substance Site List. The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. **One facility was found approximately 0.36 miles southeast of the site.**

- SWRCY (0.5 miles): This database includes a listing of recycling facilities in California. There are no SWRCY facilities within 0.5 miles of the site.

- LUST (0.5 miles): Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking UST incidents. **One facility was found approximately 0.36 miles southeast of the site.**

- CA-FID (0.25 miles): The California Facility Database contains active and inactive UST locations from the SWRCB. There are no CA-FID facilities within 0.25 miles of the site.

- CA SLIC (0.5 miles): The California SLIC records are maintained by the SWRCB and pertain to "active toxic site investigations." No sites within 0.5 miles of the site were listed in this database.

- UST (0.25 miles): USTs are regulated under Subtitle I of RCRA and must be registered with the SWRCB. No facilities within 0.25 miles of the site were listed in this database.

- DEBRIS REGION 9 (0.5 miles): Torres Martinez Reservation Illegal Dump Site Locations. A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California. The site was not listed in this database.

- HAULERS (target property): Registered Waste Tire Haulers Listing. A listing of registered waste tire haulers. The site was not listed in this database.

- HIST UST (0.25 miles): The Hazardous Substance Storage Container Database is a historical listing of UST sites. No facilities within 0.25 miles of the site were listed in this database.

- AST (0.25 miles): This database lists facilities at which aboveground petroleum storage tank facilities are located. There are no AST facilities within 0.25 miles of the site.

- SWEEPS UST (0.25 miles): Statewide environmental evaluation and planning system. This UST listing was updated and maintained by a company contracted by the SWRCB in the early 1980s. The listing is no longer updated or maintained. The local agency (RCDEH) is the contact for more information on a site on the SWEEPS list. No facilities within 0.25 miles of the site were listed in this database.

- HMIRS (target property): Hazardous Materials Information Reporting System. Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT. The site was not listed in this database.

- CHMIRS (target property): The California Hazardous Material Incident Reporting System contains information on reported hazardous material incidents (accidental releases or spills). The site was not listed in this database.

- LDS (target property): Land Disposal Sites Listing. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. The site was not listed in this database.

- MCS (target property): Military Cleanup Sites Listing. The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DOD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities. The site was not listed in this database.

- RCRA-NonGen (0.25 miles): RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste. No facilities within 0.5 miles of the site were listed in this database.

- NPDES (target property): National Pollutant Discharge Elimination System Permits Listing. A listing of NPDES permits, including storm water. The site was not listed in this database.

- NOTIFY 65 (1.0 mile): Proposition 65 Notification Records contain notices about any release that could impact drinking water and thereby expose the public to a

potential health risk. No facilities within 1.0 mile of the site were listed in this database.

- DEED (0.5 miles): A list of deed restrictions is maintained by the DTSC to protect the public from unsafe exposures to hazardous substances and wastes. The records indicate that there are no DEED facilities within 0.5 miles of the site.

- VCP (0.5 miles): This database contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs under the voluntary cleanup program (VCP). The records indicate that there are no VCP facilities within 0.5 miles of the site.

- DRYCLEANERS (0.25 miles): This database contains a list of dry cleaning-related facilities that have EPA identification numbers. No sites within 0.25 miles of the site were listed in this database.

- WIP (0.25 miles): This database contains the Well Investigation Program case list. The records indicate there are no WIP facilities within 0.25 miles of the site.

- CDL (target property): This database includes a listing of clandestine drug lab locations as maintained by the DTSC. The site was not listed in this database.

- RESPONSE (1.0 mile): This database identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. The records indicate that there are no RESPONSE facilities within 1.0 mile of the site.

- HAZNET (target property): The HAZNET database identifies hazardous waste generators and hazardous waste treatment, storage, and disposal facilities in the state of California based on extraction of data from hazardous waste manifests received each year by DTSC. The site was not listed in the HAZNET database.

- EMI (target property): The California Air Resources Board maintains a database of toxics and criteria pollutant emissions data. The site was not listed in the EMI database.

- SCRD DRYCLEANERS (0.5 miles): State Coalition for Remediation of Drycleaners Listing. The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina,

Oregon, South Carolina, Tennessee, Texas, and Wisconsin. No sites within 0.5 miles of the site were listed in this database.

In summary, two (2) facilities were identified in three (3) databases within search distance specified in the ASTM Standard. Below is the description and status of these facilities:

1. Site Name: Nuview Union School District
   Address: 29780 Lakeview Avenue, Nuevo, California 92567
   Location: 0.355 miles southeast from the site
   Database: HAZNET, LUST, NPDES, CA WDS, and HIST CORTESE
   Summary: Potential contaminant of concern was gasoline, and soil was the potential media affected. The case was closed on October 27, 1999. This facility is not considered to have an environmental impact on the site.
2. Site Name: Mountain Shadows Middle School
   Address: 9th Street/Reservoir Avenue, Nuevo, California 92567
   Location: 0.516 miles northeast from the site
   Database: SCH and ENVIROSTOR
   Summary: The lead agency was DTSC for School Investigation. "No Further Action" status has been given. This facility is not considered to have an environmental impact on the site.

5.1.3 Tribal Records

A listing of tribal records searched, along with the search radius and description of each listing is presented below. No facilities of concern were identified in the records.

- INDIAN RESERV (1.0 mile): This database includes Indian administered lands of the United States that have any area equal to or greater than 640 acres. The records indicate there are no INDIAN RESERV facilities within 1.0 mile of the site.

- INDIAN LUST (0.5 miles): This database includes leaking underground storage tank sites located on Indian land. The records indicate there are no INDIAN LUST facilities within 0.5 miles of the site.

- INDIAN UST (0.25 miles): This database includes a listing of USTs located on Indian land. The records indicate there are no INDIAN UST facilities within 0.25 miles of the site.

- INDIAN ODI (0.5 miles): Report on the status of Open Dumps on Indian lands. Location of open dumps on Indian land. The records indicate there are no Indian ODI facilities within 0.5 miles of the site.

5.1.4 EDR Proprietary Records

EDR's proprietary records include listings of manufactured gas plants, gas stations, and dry cleaners. Manufactured gas plants were searched within a 1.0 mile radius of the site while gas stations and dry cleaners were searched within a 0.25 miles radius of the site. According to the records, none of these types of facilities were found within their respective search radii from the site.

5.1.5 Orphan Sites

EDR's radius map report identified 2 unmapped facilities due to inadequate address information. These facilities are referred to as orphan sites by EDR. Rubicon reviewed the site reports and conducted research via the internet to assist in identifying the site location and nature of the database listing. The research showed that the closest site was located approximately 1.5 miles from the site.

5.2 AGENCY RECORDS

In addition to the government records, Rubicon reviewed electronic records available from the SWRCB GeoTracker website and DTSC Envirostor website. The records review identified 2 facilities that were mentioned in section 5.1.2. Below is the summary of the findings:

- **Nuview Union School District – 29780 Lakeview Avenue, Nuevo, California**

  On February 24, 1999, one (1) 1,000-gallon diesel tank and one (1) 4,000-gallon gasoline tank are removed from the facility. Subsequently, site characterization was completed for the facility. On October 27, 1999, Riverside County Department of Environmental Health (RCDEH) issued a closure letter indicating that no further action related to the underground tank release was required at the facility.

- **Mountain Shadows Middle School – 9th Street/Reservoir Avenue, Nuevo, California**

  The school site was investigated by DTSC for potential contamination in soil by DDE (chemical in pesticide); however, DTSC determined no further action for the facility on March 9, 2001.

Rubicon contacted RCDEH, Hazardous Materials Management Division (HMMD), for any records of chemical releases/violations and aboveground/ underground storage tanks at the site. Ms. Suzanne Cauffiel of HMMD informed Rubicon that record searches can be conducted only with addresses and not with APNs.

5.3 USER PROVIDED INFORMATION

SCE indicated that the acreage of the site is approximately 5.78, and the site has been used for farming. SCE also indicated that there is a possible abandoned well on or near the site.

SCE conducted an interview with the property owner regarding the abandoned water well at the site. Below is the summary of information obtained from the interview:

> The water well was abandoned prior to the current owner's purchase of the property; therefore, the current owner does not know if the well was abandoned property or if there is a permit for the abandoned well. The well was abandoned because the groundwater throughout that valley had a high selenium concentration; thus, it couldn't be used for agriculture purposes. There are series of wells all around the community of Lakeview and all have been abandoned for the same reason.

5.4 GROUND WATER PRODUCTION WELLS

The following federal and state databases were searched for water well information:

- Federal USGS Well Information (EDR search)
- FRDS Public Water Supply System Information (EDR search)
- State Database Well Information (EDR search)
- USGS Historical Topographic Maps

According to the EDR report (Appendix C), there are six water wells within 1.0 mile of the site; however, the on-site well was not listed in the report. The water wells are described in the table below:

Map ID#	Distance from the Site	Facility/Water Type	Well Depth	Hole Depth	Ground Water Level
1	0.30 miles Southeast	Ground water other than spring	365	365	N/A
2	0.39 miles Northwest	Ground water other than spring	907	915	N/A
3	0.40 miles North	Ground water other than spring	630	640	217.2 feet (3/8/01)
4	0.50 miles Northeast	Ground water other than spring	518	518	266.3 feet (3/8/01)
5	0.73 miles Southwest	Ground water other than spring	917	917	N/A
6	0.85 mile North	Well/Groundwater	N/A	N/A	N/A

6.0 SITE RECONNAISSANCE

The purpose of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with the site. The site and adjoining properties were visually observed on September 21, 2009, by Mr. Peter Lee of Rubicon along with Ms. Sonia Sorensen of SCE. The specific objective of the reconnaissance was to note visual or olfactory evidence of recognized environmental conditions. Additionally, reconnaissance of adjoining properties was performed to identify land use and associated potential recognized environmental conditions. Figure 2 presents the site and developments in close proximity. Site photographs are included in Appendix E.

6.1 SITE OBSERVATIONS

The site is a rectangular-shaped area covering approximately 5.78 acres of land located on the southwestern corner of 10th Street and Reservoir Avenue in Lakeview, California (Figure 2). The site is a part of large farm land. Currently, the site is used for growing potatoes.

From the site reconnaissance, a concrete slab with an adjoined natural gas line was observed in the northeastern corner of the site. According to Mr. Brent Lunt of Agri-Empire, who is currently renting the property for farming purpose, a natural gas engine was used on top of the concrete slab. There were small stains observed on top of the concrete slab, but the stains were considered *de minimis* conditions. Next to the concrete slab, an abandoned water well was observed to be covered with a metal plate. According to the property owner, the well was abandoned because the groundwater water throughout the valley, underlying the site, had a high selenium concentration, and it was not acceptable for agriculture purposes. However, the well was not properly abandoned. Since the use of the water well is no longer intended, the well should be properly abandoned under Riverside County Environmental Health requirements. A broken tip of an underground pipe was also observed near the well. Photographs taken at the site are included in Appendix E.

6.2 ADJOINING PROPERTIES

Adjoining properties were visually examined from public access right-of-ways to make a cursory assessment of current land uses and their potential for recognized environmental conditions which may have impacted the site. Reconnaissance of adjoining properties was performed by viewing land use from legal boundaries or by walking around the adjoining properties that were legally accessible. Most of the surrounding properties are farm land. There were no recognized environmental conditions observed on the adjoining properties.

6.3 INTERVIEWS

Interviews were conducted to obtain information on the history and current conditions of the site and adjacent areas in order to evaluate the potential presence of recognized environmental conditions. Results of the interviews are summarized below.

Mr. Brent Lunt of Agri-Empire was interviewed in person on September 21, 2009. Mr. Lunt indicated that the Agri-Empire is renting the site for farming purposes, and the site has always been used for farming. Mr. Lunt said that a natural gas engine was used on top of the existing concrete slab, and the water well at the site is no longer used. He also said that the land is currently used for growing potatoes.

Ms. Suzanne Cauffiel of HMMD was interviewed via telephone on September 22, 2009. Ms. Cauffiel indicated that record searches can be conducted for addresses but not for APNs.

Ms. Kim P, a records technician of the Riverside County Building & Safety Department was interviewed on September 22, 2009. Ms. Kim P indicated that no permits records for the site were found.

The user questionnaire, completed by SCE, was submitted to Rubicon. The user questionnaire did not have any significant information to identify recognized environmental conditions. A copy of the user questionnaire is included in Appendix D.

7.0 FINDINGS AND CONCLUSIONS

Based on historical information available during this Phase I ESA, the site and vicinity appear to have been used for agricultural purpose dating back to at least 1938. An interview with Mr. Brent Lunt of Agri-Empire, who is currently renting the property for farming purpose, indicated that the site has always been used for farming. Currently, the site is used for growing potatoes. There are no oil and gas wells located within a mile radius of the site.

From the site reconnaissance, a concrete slab with an adjoined natural gas line was observed in the northeastern corner of the site. According to Mr. Lunt, a natural gas engine was used on top of the concrete slab. There were small stains observed on top of the concrete slab, but the stains were considered *de minimis* conditions. Next to the concrete slab, an abandoned water well was observed to be covered with a metal plate. According to the property owner, the well was abandoned because the groundwater water throughout the valley, underlying the site, had a high selenium concentration, and it was not acceptable for agriculture purposes. However, the well was not properly abandoned. Since the use of the water well is no longer intended, the well should be properly abandoned under Riverside County Environmental Health requirements. A broken tip of an underground pipe was also observed near the well.

Data gap identified during the preparation of this Phase I ESA include unreturned owner questionnaire. However, historical information obtained from topographic maps, aerial photographs, and interviews provide adequate information related to the site's historical use. It is the opinion of the Environmental Professional that this data gap does not affect the findings of this Phase I ESA.

Rubicon Engineering Corporation has performed the Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-05 of the site. Any exceptions to, or deletions from, this practice are described in Section 1.1 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property.

Rubicon declares that, to the best of our professional knowledge and belief, we meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Mohsen Mehran, Ph.D. Project Manager	Peter Lee Staff Engineer	Amir Matin, PG, CHg, CEG Senior Geologist

RUBICON
Engineering Corporation

REFERENCES

American Society for Testing and Materials, 2005, "Standard practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," ASTM E 1527-05.

EDR, September 18, 2009, "The EDR Radius Map with Geocheck, 10th Street and Reservoir Avenue, Lakeview, CA 92567, Inquiry Number: 2595939.2s."

EDR, September 23, 2009, "The EDR-City Directory Abstract, 10th Street and Reservoir Avenue, Lakeview, CA 92567, Inquiry Number: 2595939.6."

EDR, September 18, 2009, "The EDR-Sanborn® Map Report, 10th Street and Reservoir Avenue, Lakeview, CA 92567, Inquiry Number: 2595939.3."

EDR, September 21, 2009, "The EDR Environmental Lien Search Report, 10th Street and Reservoir Avenue, Lakeview, CA 92567, Inquiry Number: 2595939.7."

EDR, September 21, 2009, "The EDR Historical Topographic Map Report, 10th Street and Reservoir Avenue, Lakeview, CA 92567, Inquiry Number: 2595939.4."

EDR, September 22, 2009, "The EDR Aerial Photo Decade Package, 10th Street and Reservoir Avenue, Lakeview, CA 92567, Inquiry Number: 2595939.5."

California Department of Water Resources (DWR), 2006, San Jacinto Groundwater Basin

Yahoo Company, 2009, http://maps.yahoo.com/

U.S.EPA, November 1, 2005, Code of Federal Regulations, Title 40, Part 312 "Standards and Practices for All Appropriate Inquiries; Final Rule".

Figures

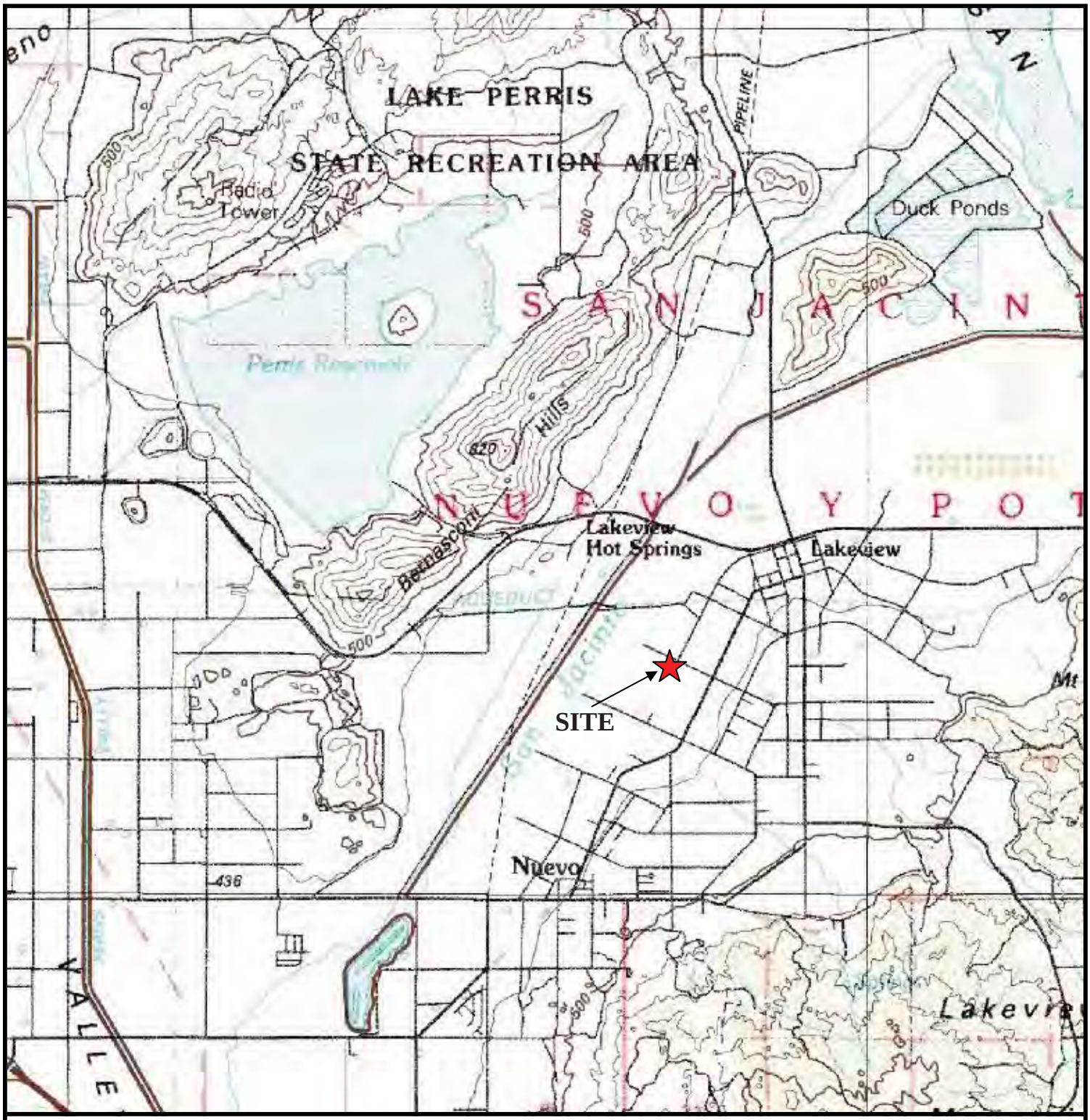
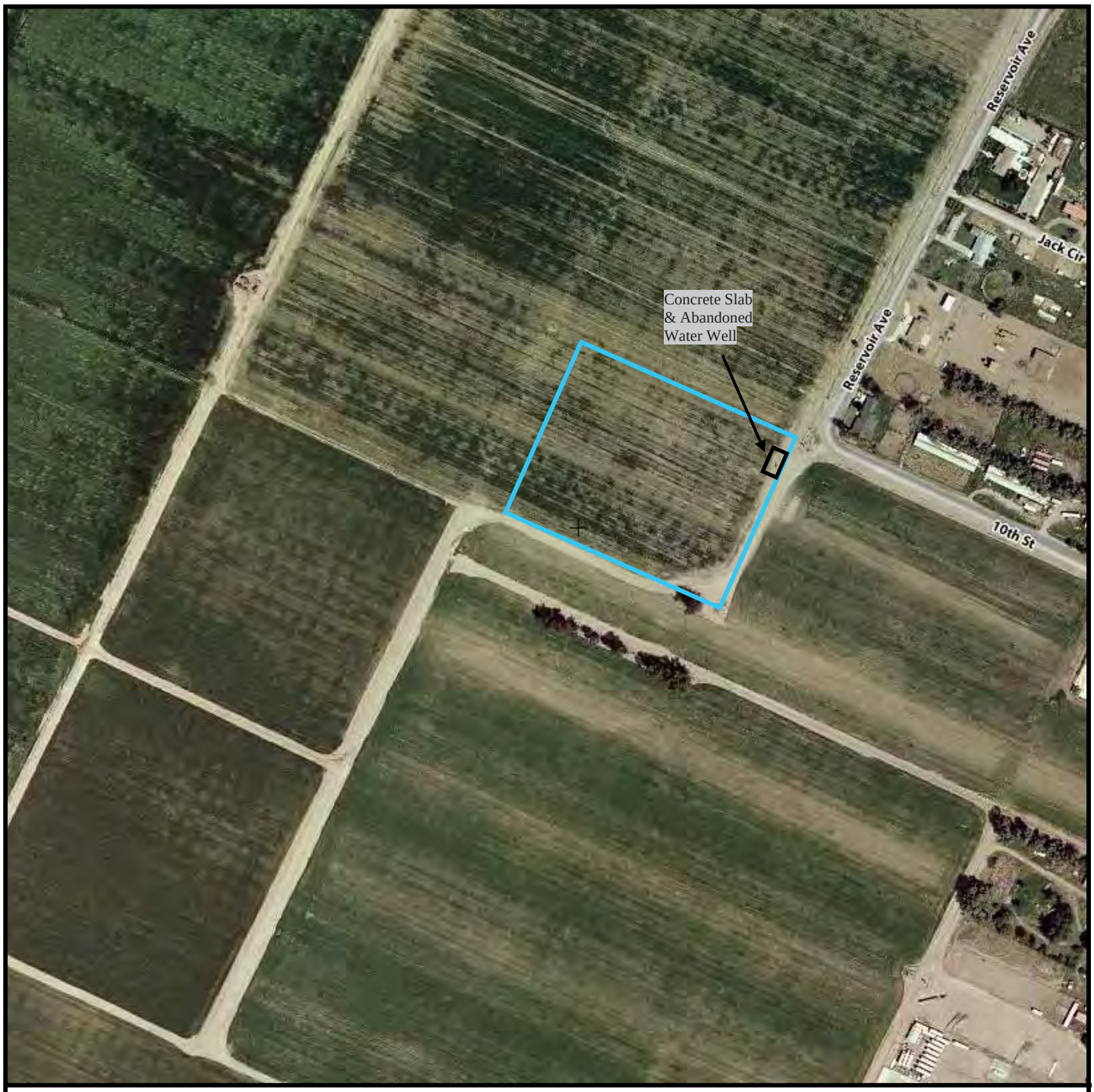


Figure 1
Site Location Map

Proposed Lakeview Substation
Lakeview, California

Reference: TERRASERVER-USA
Map Year: 1979

RUBICON
Engineering Corporation



Reference: Yahoo Map
Not to Scale

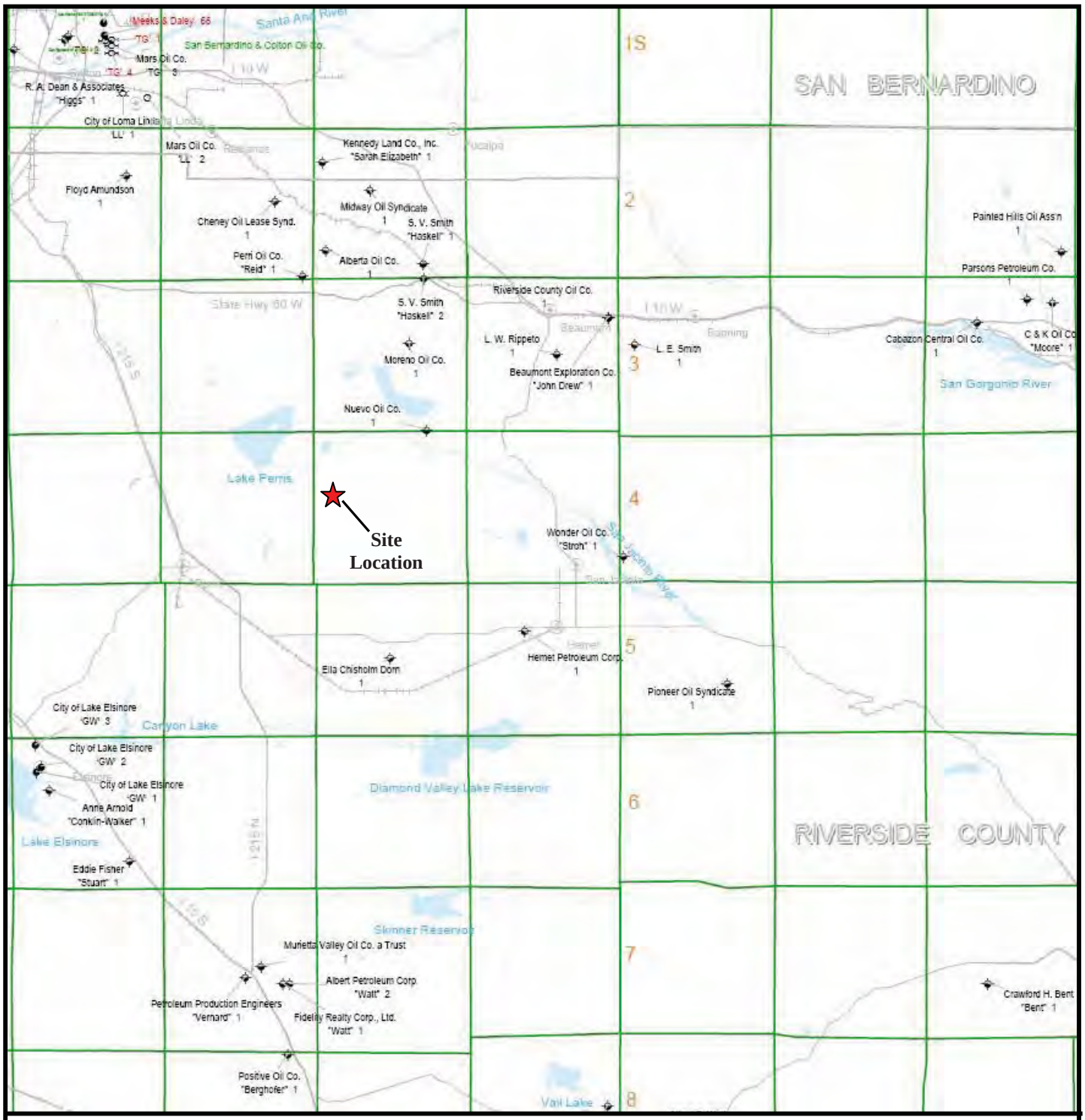
SITE BOUNDARY

N

Figure 2
Site and Vicinity Map

Proposed Lakeview Substation
Lakeview, California

RUBICON
Engineering Corporation



0 6 12 Miles

Approximate Scale

N

Figure 3
DOGGR Map

Proposed Lakeview Substation
Lakeview, California

REFERENCE:
DIVISION OF OIL AND GAS AND GEOTHERMAL RESOURCES WEBSITE
ftp://ftp.consrv.ca.gov/pub/oil/maps/dist1/w1-7/Mapw1-7.pdf
WILDCAT MAP W1-7

RUBICON Engineering Corporation

Appendix A

Historical Topographic Maps

Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Inquiry Number: 2595939.4
September 21, 2009

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

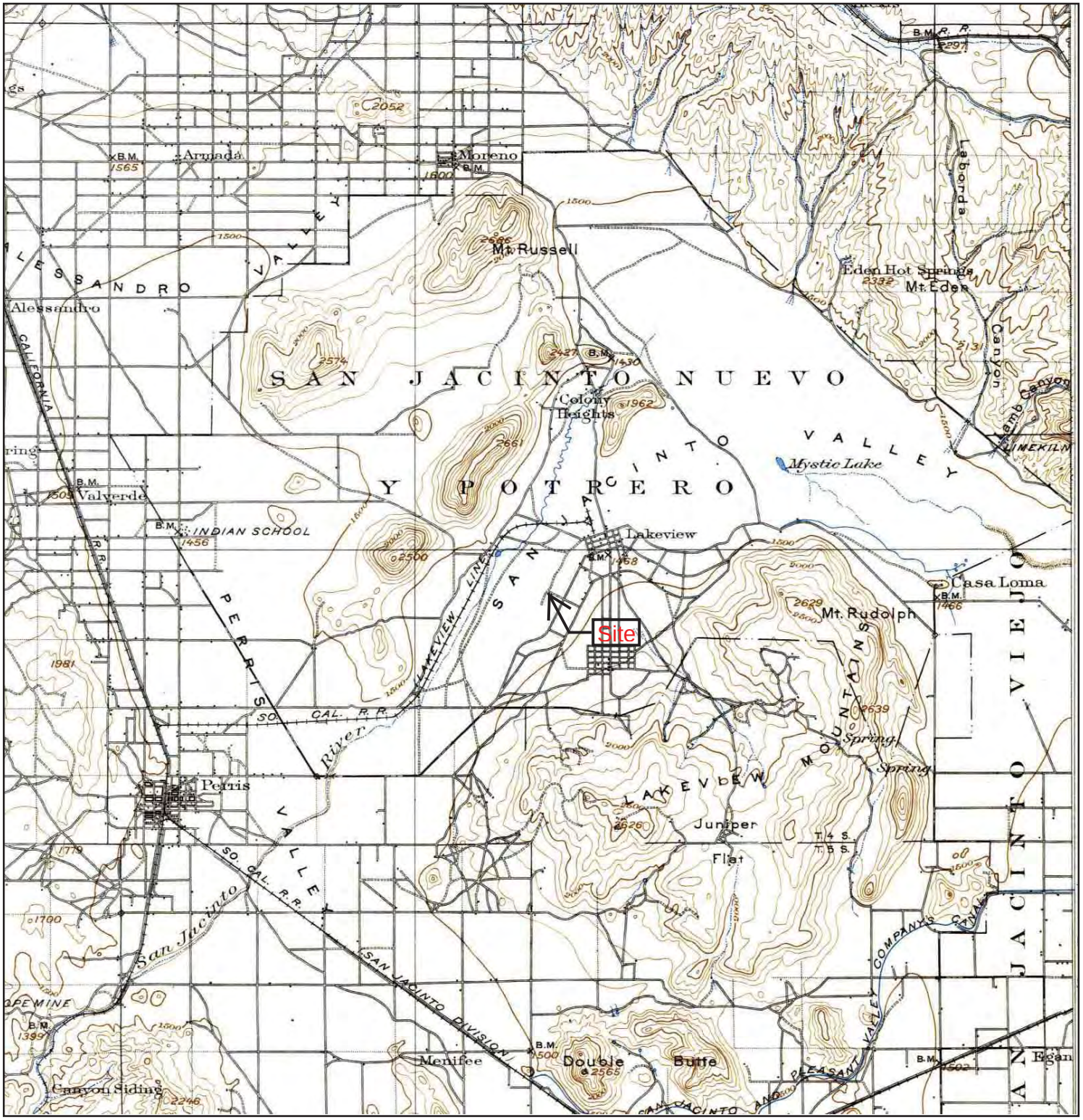
440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map

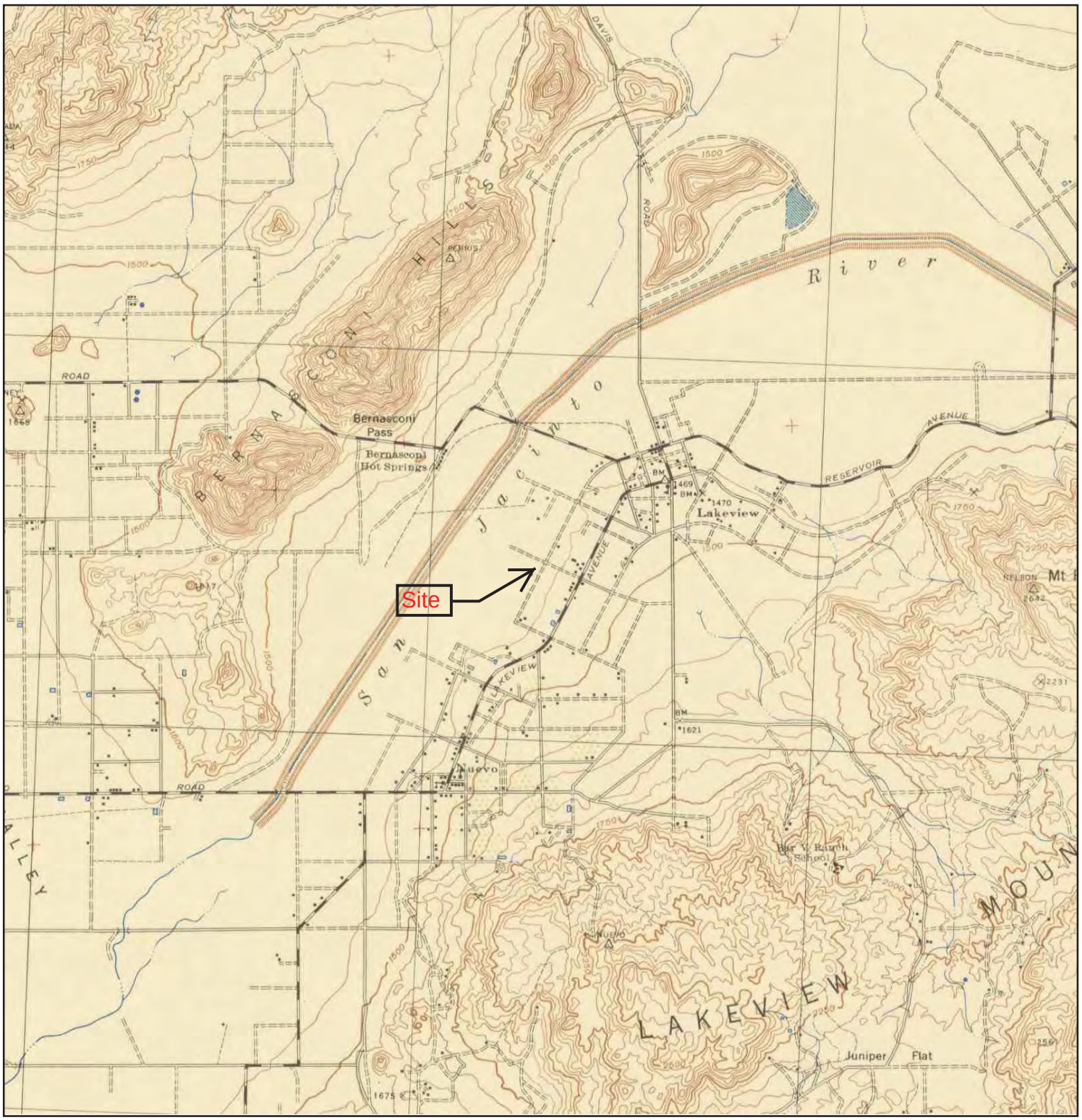


N	TARGET QUAD NAME: ELSINORE MAP YEAR: 1901 SERIES: 30 SCALE: 1:125000	SITE NAME: Lakeview Substation ADDRESS: 10th St. and Reservoir Ave. Lakeview, CA 92567 LAT/LONG: 33.8259 / 117.1331	CLIENT: Rubicon Engineering Corporation CONTACT: Peter Lee INQUIRY#: 2595939.4 RESEARCH DATE: 09/21/2009

Historical Topographic Map

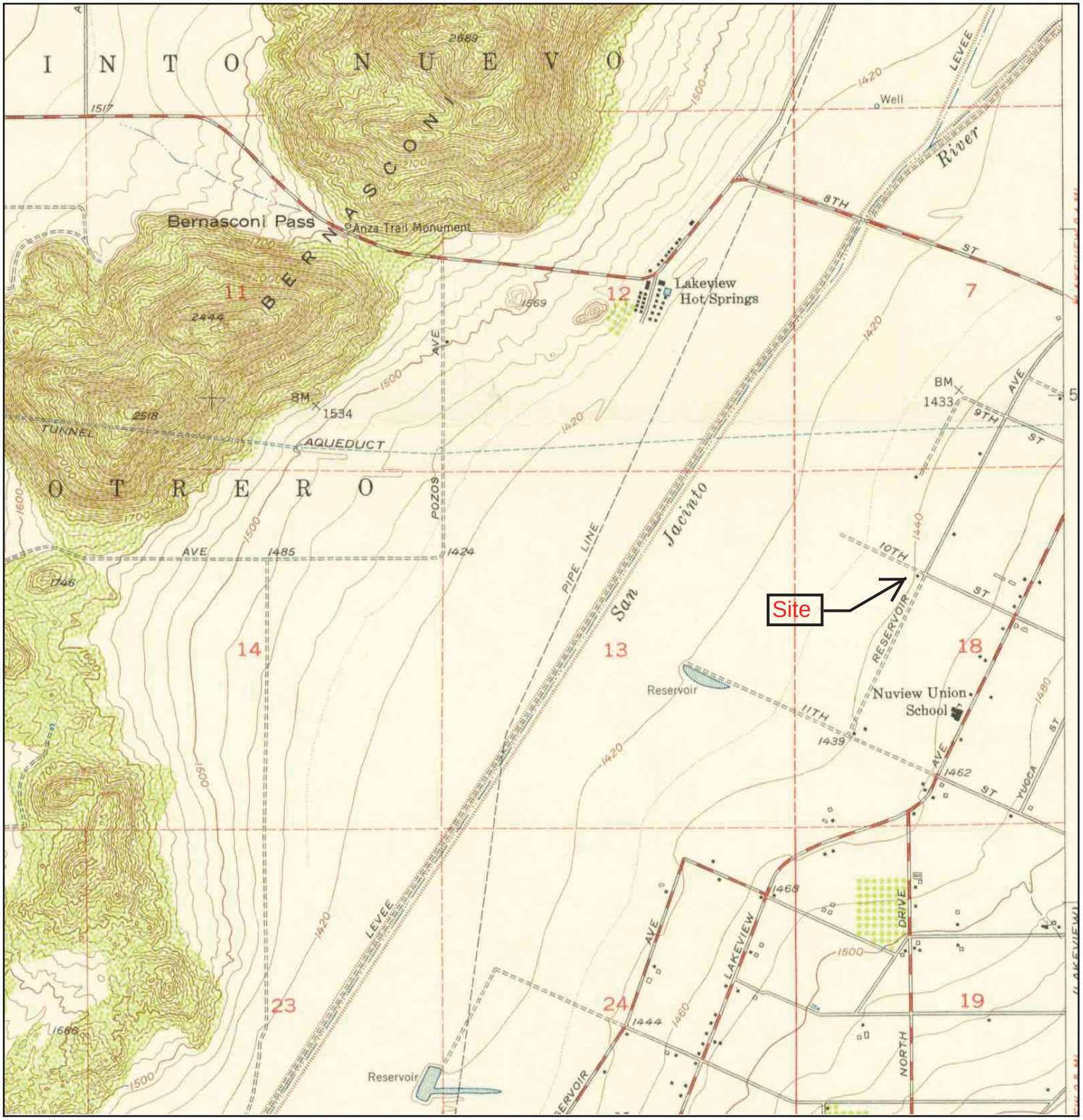
N	TARGET QUAD NAME: SOUTHERN CA SHEET 1 MAP YEAR: 1901 SERIES: 60 SCALE: 1:250000	SITE NAME: Lakeview Substation ADDRESS: 10th St. and Reservoir Ave. Lakeview, CA 92567 LAT/LONG: 33.8259 / 117.1331	CLIENT: Rubicon Engineering Corporation CONTACT: Peter Lee INQUIRY#: 2595939.4 RESEARCH DATE: 09/21/2009

Historical Topographic Map



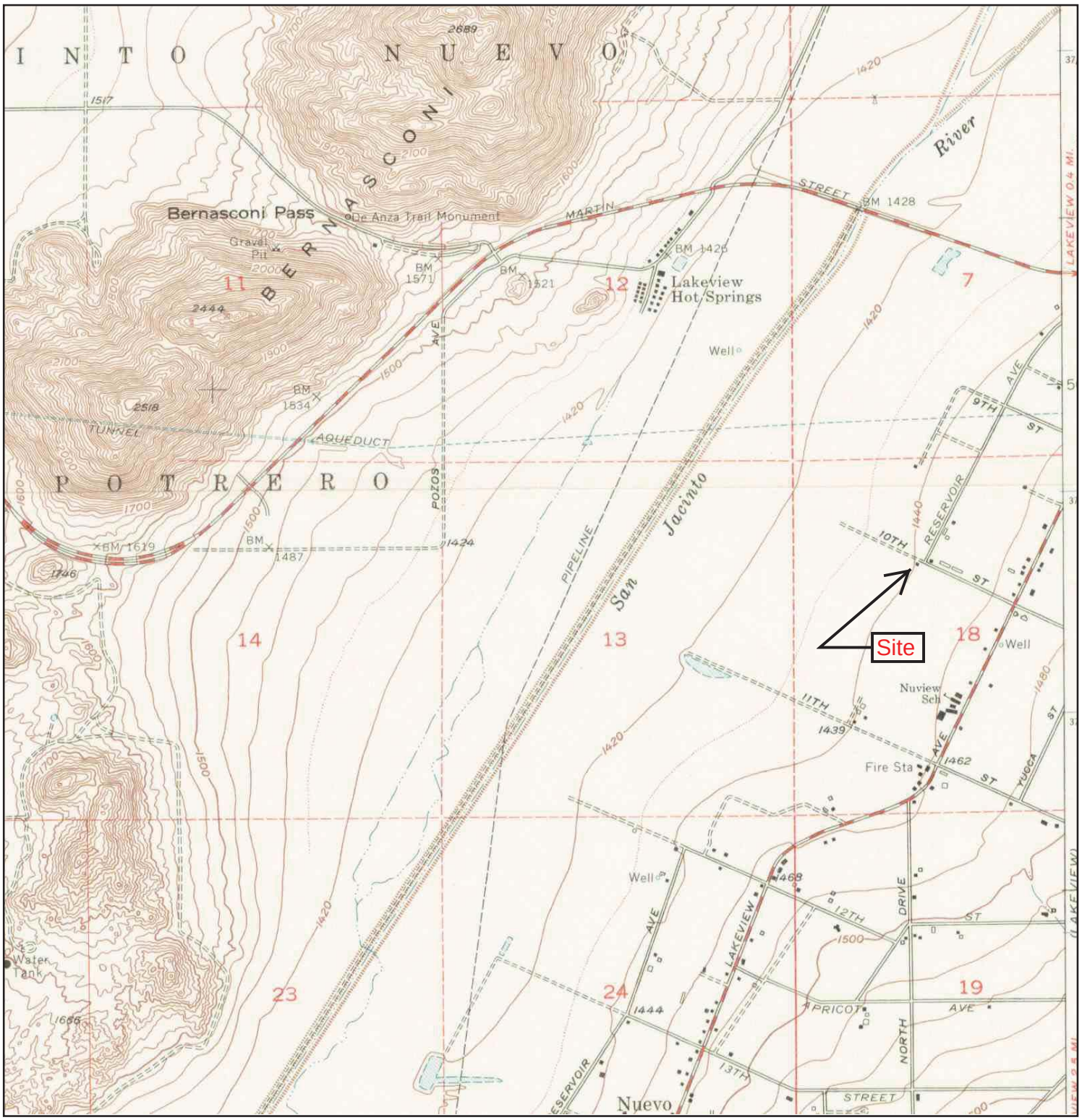
N			
	TARGET QUAD NAME: PERRIS MAP YEAR: 1943 SERIES: 15 SCALE: 1:62500	SITE NAME: Lakeview Substation ADDRESS: 10th St. and Reservoir Ave. Lakeview, CA 92567 LAT/LONG: 33.8259 / 117.1331	CLIENT: Rubicon Engineering Corporation CONTACT: Peter Lee INQUIRY#: 2595939.4 RESEARCH DATE: 09/21/2009

Historical Topographic Map



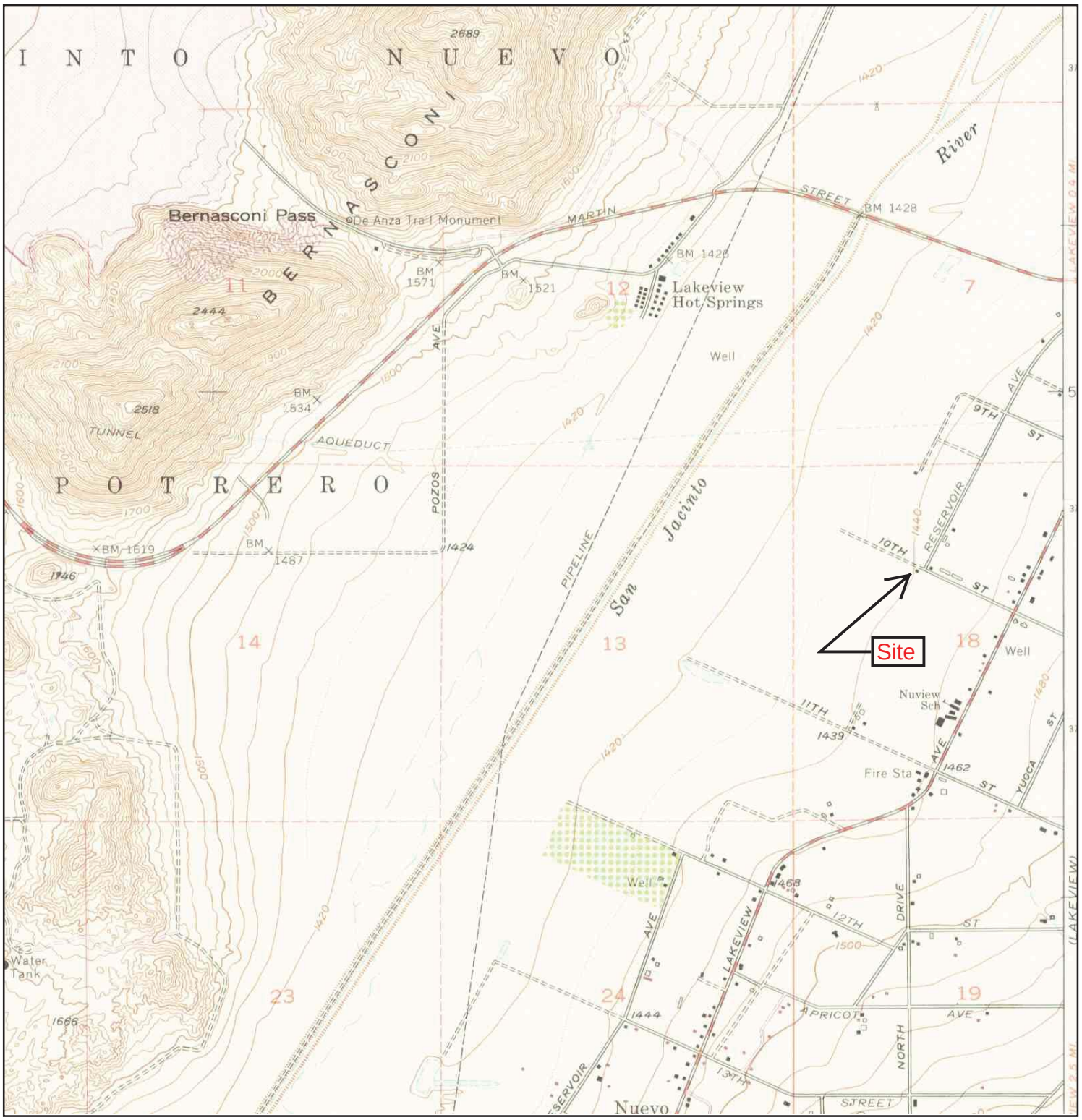
N	TARGET QUAD NAME: PERRIS MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Lakeview Substation ADDRESS: 10th St. and Reservoir Ave. Lakeview, CA 92567 LAT/LONG: 33.8259 / 117.1331	CLIENT: Rubicon Engineering Corporation CONTACT: Peter Lee INQUIRY#: 2595939.4 RESEARCH DATE: 09/21/2009

Historical Topographic Map



N	TARGET QUAD NAME: PERRIS MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Lakeview Substation ADDRESS: 10th St. and Reservoir Ave. Lakeview, CA 92567 LAT/LONG: 33.8259 / 117.1331	CLIENT: Rubicon Engineering Corporation CONTACT: Peter Lee INQUIRY#: 2595939.4 RESEARCH DATE: 09/21/2009

Historical Topographic Map



N	TARGET QUAD NAME: PERRIS MAP YEAR: 1973 PHOTOREVISED FROM:1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Lakeview Substation ADDRESS: 10th St. and Reservoir Ave. Lakeview, CA 92567 LAT/LONG: 33.8259 / 117.1331	CLIENT: Rubicon Engineering Corporation CONTACT: Peter Lee INQUIRY#: 2595939.4 RESEARCH DATE: 09/21/2009

Appendix B

Historical Aerial Photographs

Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Inquiry Number: 2595939.5
September 22, 2009

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

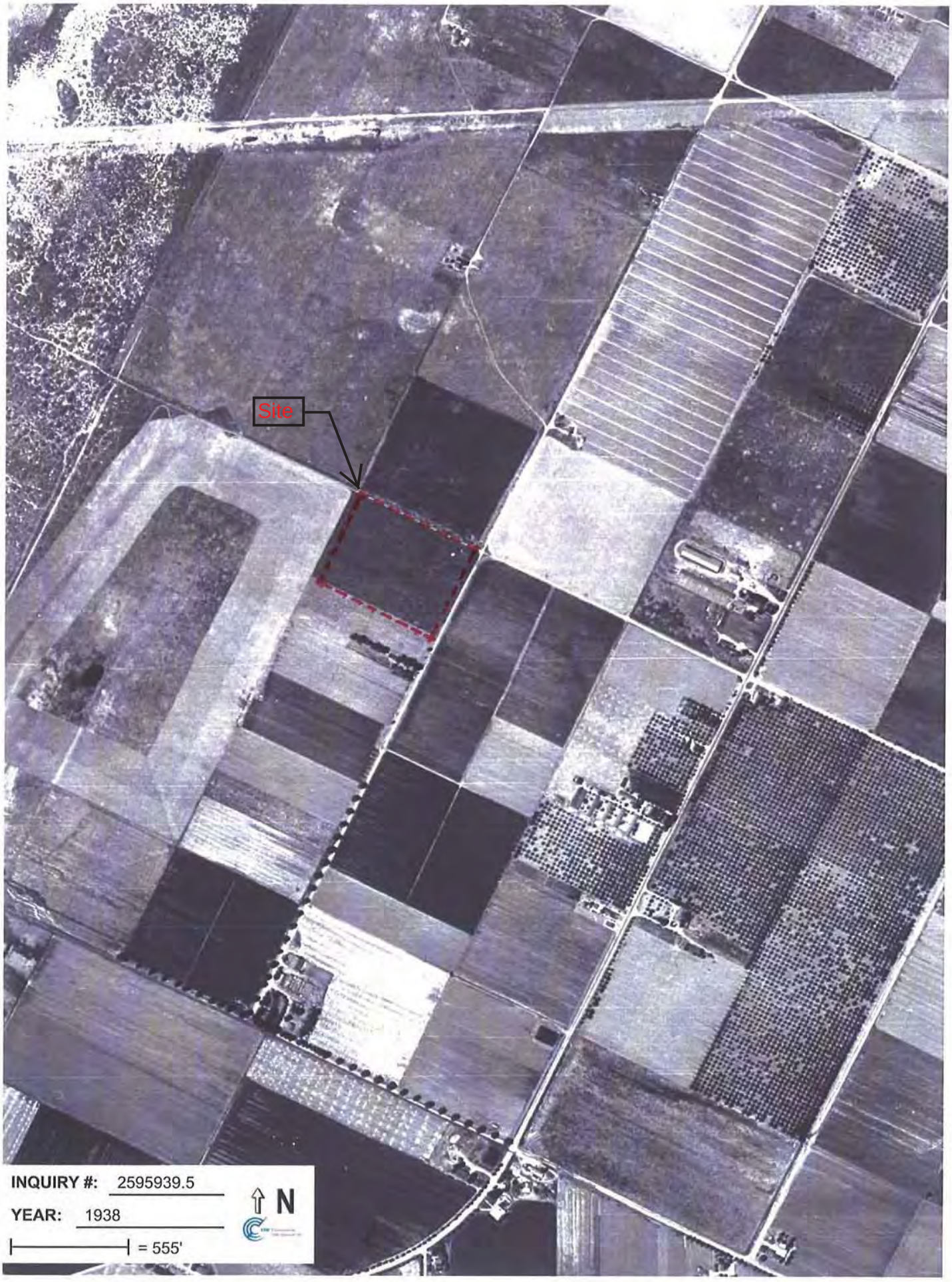
When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:
Aerial Photography September 22, 2009

Target Property:
10th St. and Reservoir Ave.
Lakeview, CA 92567

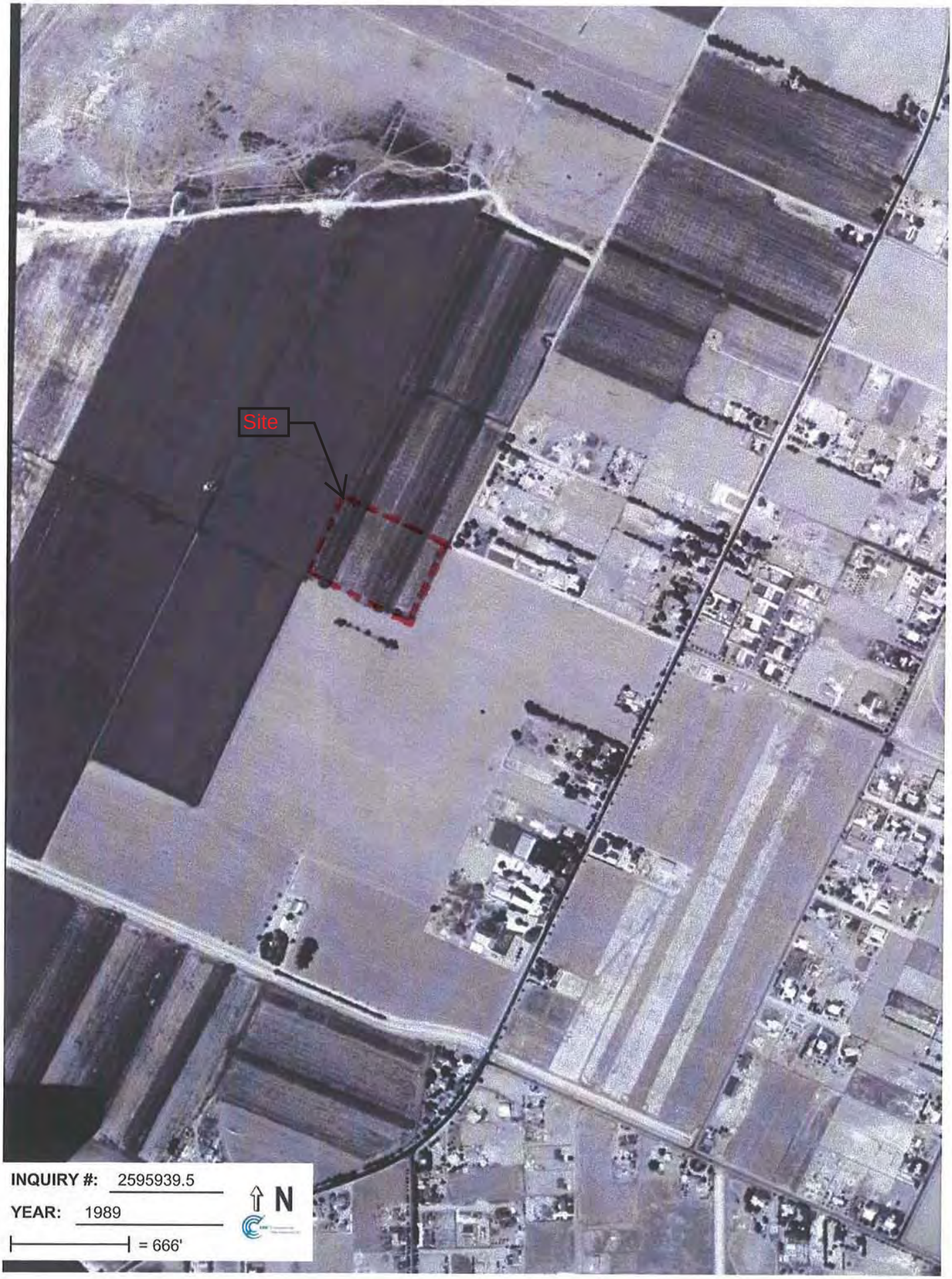
Year	*Scale*	*Details*	*Source*
1938	Aerial Photograph. Scale: 1"=555'	Flight Year: 1938	Laval
1953	Aerial Photograph. Scale: 1"=555'	Flight Year: 1953	Pacific Air
1967	Aerial Photograph. Scale: 1"=555'	Flight Year: 1967	Western
1980	Aerial Photograph. Scale: 1"=600'	Flight Year: 1980	AMI
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=666'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS
2005	Aerial Photograph. 1" = 604'	Flight Year: 2005	EDR

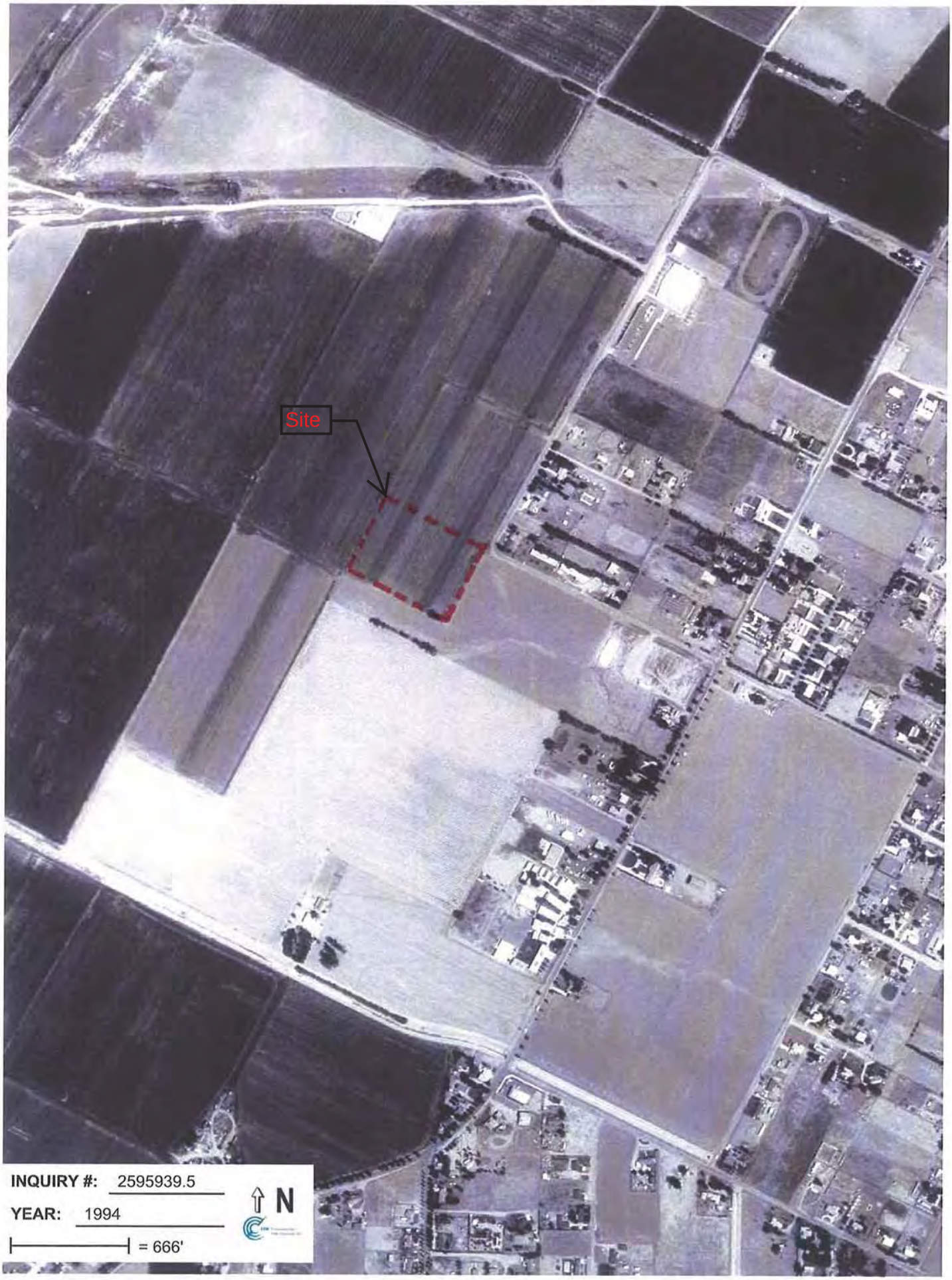

Site
INQUIRY #: 2595939.5
YEAR: 1938
= 555'
N


Site
INQUIRY #: 2595939.5
YEAR: 1953
= 555'
N


Site
INQUIRY #: 2595939.5
YEAR: 1967
= 555'
N


Site
INQUIRY #: 2595939.5
YEAR: 1980
= 600'
N


Site
INQUIRY #: 2595939.5
YEAR: 1989
= 666'
N


Site
INQUIRY #: 2595939.5
YEAR: 1994
= 666'
N


Site
INQUIRY #: 2595939.5
YEAR: 2002
= 666'
N


Site
INQUIRY #: 2595939.5
YEAR: 2005
= 604'
N

Appendix C

EDR Reports

Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Inquiry Number: 2595939.2s
September 18, 2009

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

10TH ST. AND RESERVOIR AVE.
LAKEVIEW, CA 92567

COORDINATES

Latitude (North):	33.825900 - 33° 49' 33.2''
Longitude (West):	117.133100 - 117° 7' 59.2''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	487683.2
UTM Y (Meters):	3742666.5
Elevation:	1444 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	33117-G2 PERRIS, CA
Most Recent Revision:	1979
East Map:	33117-G1 LAKEVIEW, CA
Most Recent Revision:	1979

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2005
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Transporters, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities

INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup Program Properties
INDIAN VCP ..... Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
HIST Cal-Sites ..... Historical Calsites Database
SCH ..... School Property Evaluation Program
Toxic Pits ..... Toxic Pits Cleanup Act Sites
CDL ..... Clandestine Drug Labs
US HIST CDL ..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST ..... Facility Inventory Database
HIST UST ..... Hazardous Substance Storage Container Database
SWEEPS UST ..... SWEEPS UST Listing

Local Land Records

LIENS 2 ..... CERCLA Lien Information
LUCIS ..... Land Use Control Information System
LIENS ..... Environmental Liens Listing
DEED ..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
CHMIRS ..... California Hazardous Material Incident Report System
LDS ..... Land Disposal Sites Listing
MCS ..... Military Cleanup Sites Listing

Other Ascertainable Records

RCRA-NonGen ..... RCRA - Non Generators

DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
CA BOND EXP. PLAN	Bond Expenditure Plan
CA WDS	Waste Discharge System
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
PCB TRANSFORMER	PCB Transformer Registration Database

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations	EDR Proprietary Historic Gas Stations
EDR Historical Cleaners	EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 08/27/2009 has revealed that there is 1 ENVIROSTOR site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MOUNTAIN SHADOWS MIDDLE SCHOOL	***9TH STREET/RESERVOIR AV***	***NNE 1/2 - 1 (0.516 mi.)***	***2***	***10***
Status: No Further Action				

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 07/07/2009 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NUVIEW UNION SCHOOL DISTRICT	***29780 LAKEVIEW AVE***	***SSE 1/4 - 1/2 (0.355 mi.)***	***1***	***7***
Status: Completed - Case Closed				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within approximately 0.5 miles of the target property.

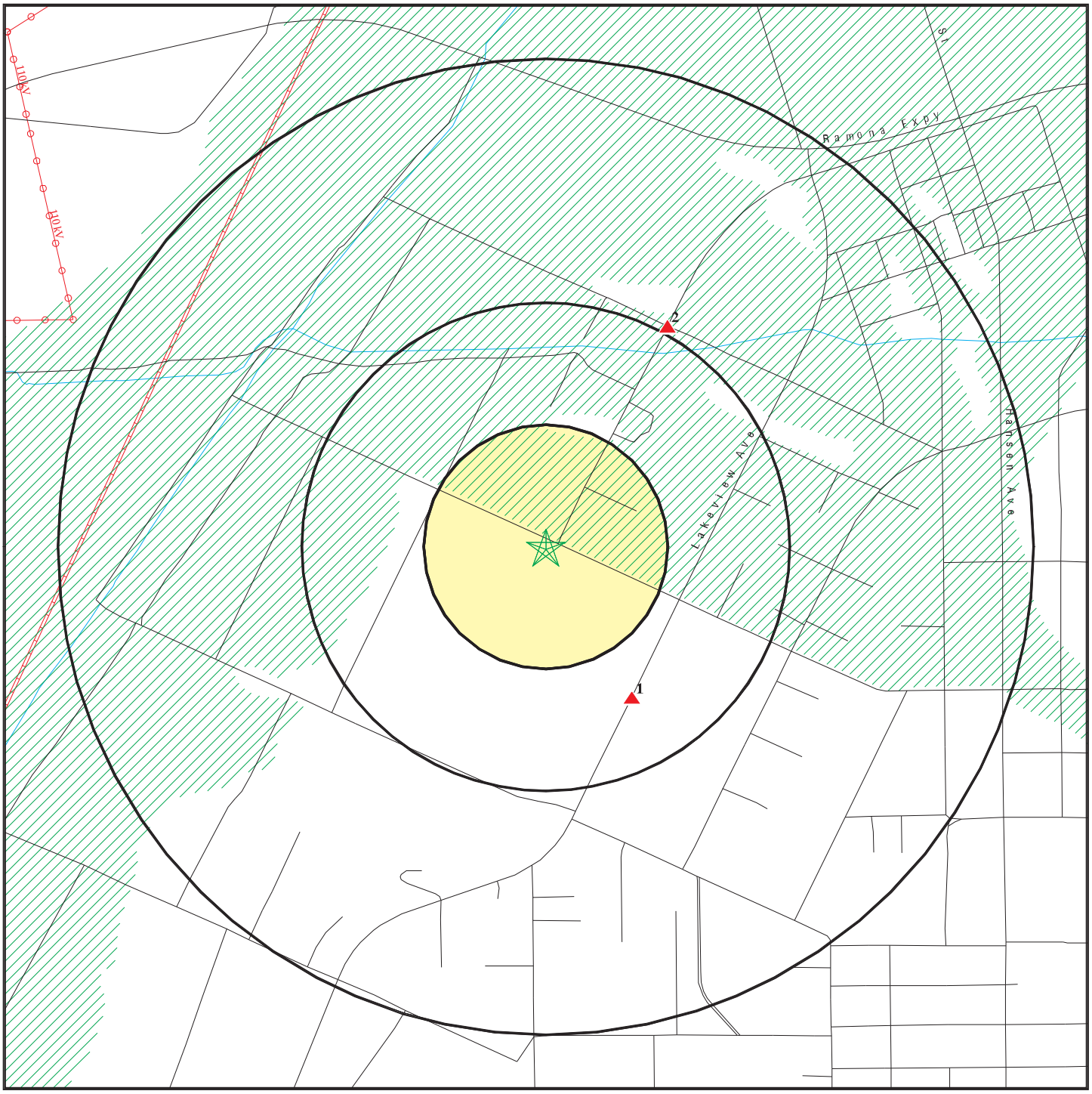
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NUVIEW UNION SCHOOL DISTRICT	***29780 LAKEVIEW AVE***	***SSE 1/4 - 1/2 (0.355 mi.)***	***1***	***7***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
LAKEVIEW MAINT. STATION	HIST UST
LAKEVIEW LANDFILL	FINDS

OVERVIEW MAP - 2595939.2s

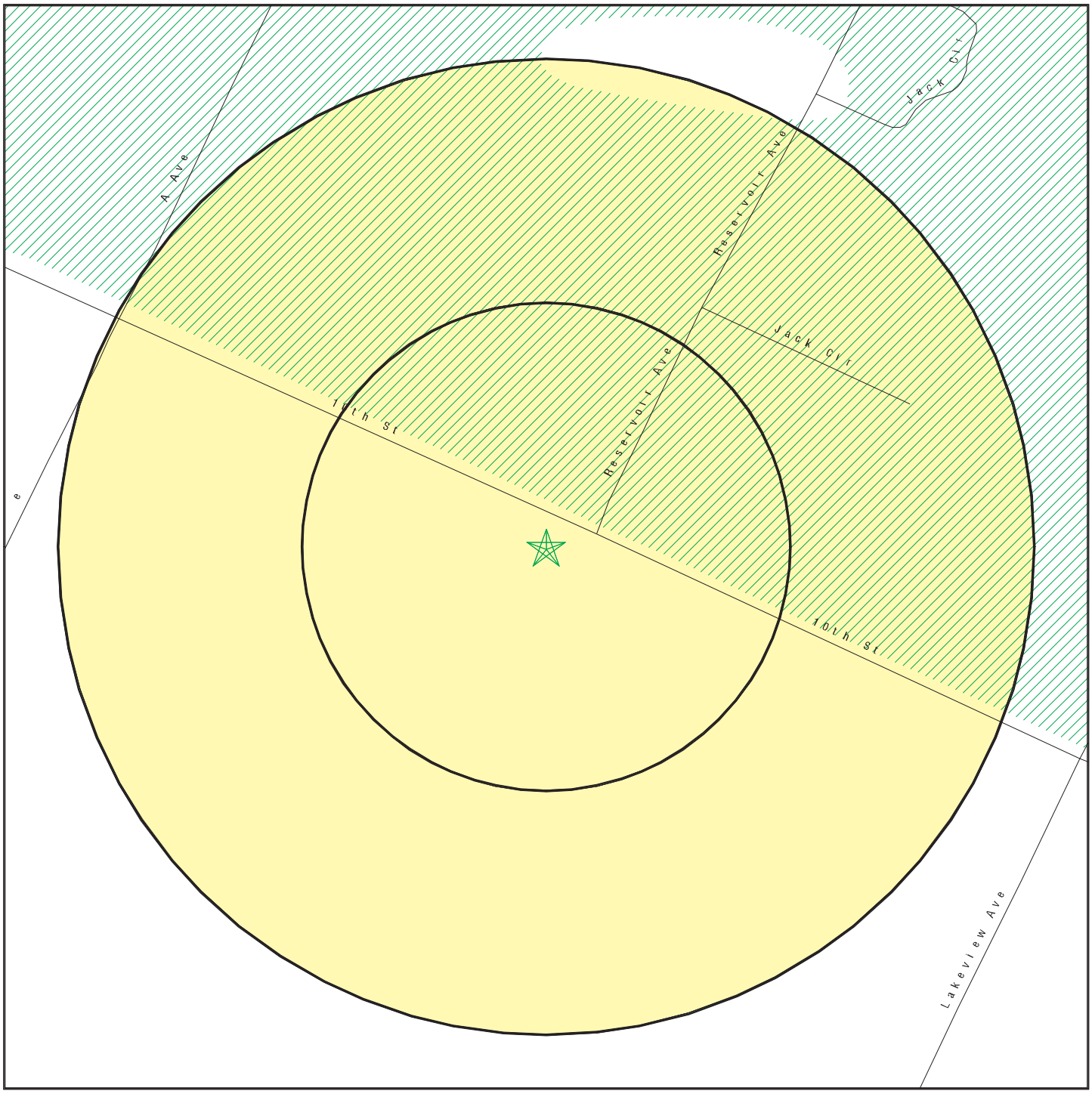


- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Lakeview Substation	CLIENT: Rubicon Engineering Corporation
ADDRESS: 10th St. and Reservoir Ave. Lakeview CA 92567	CONTACT: Peter Lee
LAT/LONG: 33.8259 / 117.1331	INQUIRY #: 2595939.2s
	DATE: September 18, 2009 6:14 pm

DETAIL MAP - 2595939.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Lakeview Substation	CLIENT: Rubicon Engineering Corporation
ADDRESS: 10th St. and Reservoir Ave.	CONTACT: Peter Lee
Lakeview CA 92567	INQUIRY #: 2595939.2s
LAT/LONG: 33.8259 / 117.1331	DATE: September 18, 2009 6:15 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE		1.000	0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR		1.000	0	0	0	1	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	0	1	NR	NR	1
SLIC		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP		0.500	0	0	0	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
HAULERS		TP	NR	NR	NR	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
HIST Cal-Sites		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	0	0	NR	NR	NR	0
SWEEPS UST		0.250	0	0	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
DEED		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
LDS		TP	NR	NR	NR	NR	NR	0
MCS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN		1.000	0	0	0	0	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
HIST CORTESE		0.500	0	0	1	NR	NR	1
Notify 65		1.000	0	0	0	0	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000	0	0	0	0	NR	0
EDR Historical Auto Stations	0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners	0.250	0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
SSE
1/4-1/2
0.355 mi.
1877 ft.

NUVIEW UNION SCHOOL DISTRICT
29780 LAKEVIEW AVE
NUEVO, CA 92567

HAZNET **S103945680**
LUST **N/A**
NPDES
CA WDS
HIST CORTESE

Relative:
Higher

Actual:
1469 ft.

HAZNET:

Gepaid:	CAC001317624
Contact:	NUVIEW UNION SCHOOL DISTRICT
Telephone:	9099280066
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	29780 LAKEVIEW AVE
Mailing City,St,Zip:	NUEVO, CA 925670000
Gen County:	Riverside
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	1.251
Facility County:	Riverside

Gepaid:	CAL000298488
Contact:	RUSS RAMSEY/DIR OF MAINT/EX: 1801
Telephone:	9519281302
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	29780 LAKEVIEW AVE
Mailing City,St,Zip:	NUEVO, CA 925670000
Gen County:	Riverside
TSD EPA ID:	CAR000156125
TSD County:	San Bernardino
Waste Category:	Adhesives
Disposal Method:	Recycler
Tons:	0
Facility County:	Riverside

LUST:

Region:	STATE
Global Id:	T0606500596
Latitude:	33.821014475
Longitude:	-117.1304195
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	1999-10-27 00:00:00
Lead Agency:	RIVERSIDE COUNTY LOP
Case Worker:	Not reported
Local Agency:	RIVERSIDE COUNTY LOP
RB Case Number:	083303497T
LOC Case Number:	9915189
File Location:	Local Agency Warehouse
Potential Media Affect:	Soil
Potential Contaminats of Concern:	Gasoline
Site History:	Not reported

LUST REG 8:

Region:	8
County:	Riverside

NUVIEW UNION SCHOOL DISTRICT (Continued) **S103945680**

Regional Board:	Santa Ana Region
Facility Status:	Preliminary site assessment underway
Case Number:	083303497T
Local Case Num:	99-15189
Case Type:	Soil only
Substance:	Gasoline
Qty Leaked:	Not reported
Abate Method:	Not reported
Cross Street:	10TH
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	Tank Closure
How Stopped:	Not reported
Leak Cause:	UNK
Leak Source:	UNK
Global ID:	T0606500596
How Stopped Date:	2/24/1999
Enter Date:	6/16/1999
Review Date:	5/3/1999
Prelim Assess:	8/10/1999
Discover Date:	5/3/1999
Enforcement Date:	Not reported
Close Date:	Not reported
Workplan:	6/2/1999
Pollution Char:	Not reported
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
Enter Date:	6/16/1999
GW Qualifies:	Not reported
Soil Qualifies:	=
Operator:	Not reported
Facility Contact:	Not reported
Interim:	Not reported
Oversite Program:	LUST
Latitude:	33.8194458
Longitude:	-117.1312695
MTBE Date:	Not reported
Max MTBE GW:	Not reported
MTBE Concentration:	1
Max MTBE Soil:	.1
MTBE Fuel:	1
MTBE Tested:	MTBE Detected. Site tested for MTBE & MTBE detected
MTBE Class:	*
Staff:	NOM
Staff Initials:	Not reported
Lead Agency:	Local Agency
Local Agency:	33000L
Hydr Basin #:	SAN JACINTO (8-5)
Beneficial:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	Not reported
Summary:	Not reported

LUST:
Region: RIVERSIDE

NUVIEW UNION SCHOOL DISTRICT (Continued) **S103945680**

Facility ID: 9915189
Site Closed: Yes
Case Type: Soil only

NPDES:

Npdes Number:	Not reported
Facility Status:	Active
Agency Id:	472680
Region:	8
Regulatory Measure Id:	210956
Order No:	97-03-DWQ
Regulatory Measure Type:	Storm water industrial
Place Id:	221416
WDID:	8 33I017925
Program Type:	INDSTW
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	3/11/2003
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Nuview Union School District
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported

CA WDS:

Facility ID:	Santa Ana River 33I017925
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	8
Facility Telephone:	9099280066
Facility Contact:	RAMSEY RUSS
Agency Name:	NUEVO SCHOOL DISTRICT
Agency Address:	29780 Lakeview Ave
Agency City,St,Zip:	Nuevo 925679261
Agency Contact:	RAMSEY RUSS
Agency Telephone:	9099280066
Agency Type:	Special District (Includes districts established under general acts, sanitary districts, water districts irrigation districts, etc.)
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported

NUVIEW UNION SCHOOL DISTRICT (Continued) **S103945680**

POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

CORTESE:

Region:	CORTESE
Facility County Code:	33
Reg By:	LTNKA
Reg Id:	083303497T

2
NNE
1/2-1
0.516 mi.
2726 ft.

Relative: Higher

Actual: 1449 ft.

MOUNTAIN SHADOWS MIDDLE SCHOOL **SCH** **S104549117**
9TH STREET/RESERVOIR AVENUE **ENVIROSTOR** **N/A**
NUEVO, CA 92567

SCH:

Facility ID:	33010013
Site Type:	School Investigation
Site Type Detail:	School
Acres:	7
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Mitigation And Brownfield Reuse Program
Project Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Cypress
Site Code:	404055
Assembly:	65
Senate:	37
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	2001-03-09 00:00:00
Restricted Use:	NO
Funding:	School District
Latitude:	33.8416
Longitude:	-117.1101
Alias Name:	MOUNTAIN SHADOWS MIDDLE SCHOOL
Alias Type:	Alternate Name
Alias Name:	404055
Alias Type:	Project Code (Site Code)
Alias Name:	404031
Alias Type:	Project Code (Site Code)
Alias Name:	33010013
Alias Type:	Envirostor ID Number

MOUNTAIN SHADOWS MIDDLE SCHOOL (Continued) **S104549117**

Alias Name: NUVIEW UNION SD-9TH & RESERVOIR/CDE
Alias Type: Alternate Name
Alias Name: NUVIEW UN.SD-PROP. MOUNTAIN SHADOWS/VCA
Alias Type: Alternate Name
Alias Name: NUVIEW UNION SCHOOL DISTRICT
Alias Type: Alternate Name

APN: NONE SPECIFIED
APN Description: Not reported

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2000-06-29 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2001-08-06 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 2000-06-08 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 2001-03-09 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 2000-02-08 00:00:00

Confirmed: NONE SPECIFIED
Confirmed Description: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Media Affected: , 30007
Media Affected Desc: Not reported

Management:
Management Required: NONE SPECIFIED
Management Required Desc: Not reported
Potential: SOIL
Potenital Description: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported
PastUse: AGRICULTURAL - ROW CROPS

MOUNTAIN SHADOWS MIDDLE SCHOOL (Continued) **S104549117**

ENVIROSTOR:
Site Type: School Investigation
Site Type Detailed: School
Acres: 7
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Mark Malinowski
Division Branch: Cypress
Facility ID: 33010013
Site Code: 404055
Assembly: 65
Senate: 37
Special Program: Not reported
Status: No Further Action
Status Date: 2001-03-09 00:00:00
Restricted Use: NO
Funding: School District
Latitude: 33.8416
Longitude: -117.1101
Alias Name: MOUNTAIN SHADOWS MIDDLE SCHOOL
Alias Type: Alternate Name
Alias Name: 404055
Alias Type: Project Code (Site Code)
Alias Name: 404031
Alias Type: Project Code (Site Code)
Alias Name: 33010013
Alias Type: Envirostor ID Number
Alias Name: NUVIEW UNION SD-9TH & RESERVOIR/CDE
Alias Type: Alternate Name
Alias Name: NUVIEW UN.SD-PROP. MOUNTAIN SHADOWS/VCA
Alias Type: Alternate Name
Alias Name: NUVIEW UNION SCHOOL DISTRICT
Alias Type: Alternate Name

APN: NONE SPECIFIED
APN Description: Not reported

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2000-06-29 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2001-08-06 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 2000-06-08 00:00:00

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

MOUNTAIN SHADOWS MIDDLE SCHOOL (Continued) **S104549117**

Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2001-03-09 00:00:00
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	2000-02-08 00:00:00
Confirmed:	NONE SPECIFIED
Confirmed Description:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Media Affected:	, 30007
Media Affected Desc:	Not reported

Management:

Management Required:	NONE SPECIFIED
Management Required Desc:	Not reported
Potential:	SOIL
Potenital Description:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported
PastUse:	AGRICULTURAL - ROW CROPS

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LAKEVIEW	U001575149	LAKEVIEW MAINT. STATION	HWY 18 PM 39.0	92567	HIST UST
LAKEVIEW	1006829187	LAKEVIEW LANDFILL	CORNER OF DAVIS RD AND MARVIN	92567	FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/23/2009
Date Data Arrived at EDR: 04/28/2009
Date Made Active in Reports: 05/19/2009
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/09/2009
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 101

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 09/09/2009
Next Scheduled EDR Contact: 12/14/2009
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/25/2009
Date Data Arrived at EDR: 04/02/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 39

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/02/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/02/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/02/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/02/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/31/2009
Date Data Arrived at EDR: 04/22/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/31/2009
Date Data Arrived at EDR: 04/22/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 05/19/2009
Number of Days to Update: 109

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 08/26/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/27/2009
Date Data Arrived at EDR: 08/27/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/27/2009
Date Data Arrived at EDR: 08/27/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/02/2009
Date Data Arrived at EDR: 09/04/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 14

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 09/04/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/03/2009
Next Scheduled EDR Contact: 11/02/2009
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 07/06/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 07/07/2009
Date Data Arrived at EDR: 07/09/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 14

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 07/13/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 08/10/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 07/07/2009
Date Data Arrived at EDR: 07/09/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 14

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2008
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 07/06/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 08/10/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/26/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Annually

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/24/2009
Date Data Arrived at EDR: 03/03/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 06/04/2009
Date Data Arrived at EDR: 06/05/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 12
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/20/2009
Date Data Arrived at EDR: 05/20/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 9
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/24/2009
Date Data Arrived at EDR: 05/20/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 28
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/21/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 06/01/2009
Date Data Arrived at EDR: 06/03/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 14
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 07/07/2009
Date Data Arrived at EDR: 07/09/2009
Date Made Active in Reports: 07/24/2009
Number of Days to Update: 15
Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 02/01/2009
Date Data Arrived at EDR: 06/10/2009
Date Made Active in Reports: 07/20/2009
Number of Days to Update: 40
Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 07/27/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 06/04/2009
Date Data Arrived at EDR: 06/05/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 12

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/24/2009
Date Data Arrived at EDR: 03/03/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/20/2009
Date Data Arrived at EDR: 05/20/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 9

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/21/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 06/01/2009
Date Data Arrived at EDR: 06/03/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 14

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/27/2009
Date Data Arrived at EDR: 08/27/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 07/06/2009
Date Data Arrived at EDR: 07/24/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 10

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/28/2009
Date Data Arrived at EDR: 05/29/2009
Date Made Active in Reports: 06/15/2009
Number of Days to Update: 17
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 09/08/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/26/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/26/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/27/2009
Date Data Arrived at EDR: 08/27/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 22
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2009
Date Data Arrived at EDR: 07/23/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 11

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 06/22/2009
Date Data Arrived at EDR: 06/22/2009
Date Made Active in Reports: 07/20/2009
Number of Days to Update: 28

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Varies

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/29/2009
Date Data Arrived at EDR: 06/03/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 09/08/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/13/2009
Date Data Arrived at EDR: 08/14/2009
Date Made Active in Reports: 08/20/2009
Number of Days to Update: 6

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/03/2009
Next Scheduled EDR Contact: 11/02/2009
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/29/2009
Date Data Arrived at EDR: 07/01/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/30/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/31/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 43

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/11/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 05/09/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 08/18/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 07/07/2009
Date Data Arrived at EDR: 07/09/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 14

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 07/07/2009
Date Data Arrived at EDR: 07/09/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 14

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/02/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 08/08/2008
Number of Days to Update: 72

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/27/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 05/08/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 07/01/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/27/2009
Date Data Arrived at EDR: 04/23/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 18

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/23/2009
Date Data Arrived at EDR: 04/28/2009
Date Made Active in Reports: 05/19/2009
Number of Days to Update: 21

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 05/08/2009
Number of Days to Update: 1

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/14/2009
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 03/24/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 42

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 04/09/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 69

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/14/2009
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 07/14/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 12/14/2009
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/10/2009
Next Scheduled EDR Contact: 12/14/2009
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/14/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 03/20/2009
Date Data Arrived at EDR: 03/20/2009
Date Made Active in Reports: 05/05/2009
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/13/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 02/26/2009
Date Data Arrived at EDR: 05/20/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 9

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 08/05/2009
Next Scheduled EDR Contact: 11/02/2009
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/02/2009
Date Data Arrived at EDR: 04/24/2009
Date Made Active in Reports: 05/19/2009
Number of Days to Update: 25

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/29/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/28/2009
Date Data Arrived at EDR: 04/29/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/28/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/28/2009
Date Data Arrived at EDR: 05/01/2009
Date Made Active in Reports: 05/19/2009
Number of Days to Update: 18

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 05/22/2009
Number of Days to Update: 92

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/09/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/31/2009
Date Data Arrived at EDR: 09/04/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 14

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 09/04/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 06/15/2009
Next Scheduled EDR Contact: 09/14/2009
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 07/21/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 07/21/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 07/13/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 07/21/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 07/21/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 50

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 05/08/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 07/14/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 9

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 07/14/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 05/08/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 04/13/2009
Date Data Arrived at EDR: 04/14/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 09/08/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 05/08/2009
Next Scheduled EDR Contact: 08/03/2009
Data Release Frequency: N/A

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/21/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/20/2009
Date Data Arrived at EDR: 07/20/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 14

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/20/2009
Date Data Arrived at EDR: 07/20/2009
Date Made Active in Reports: 07/31/2009
Number of Days to Update: 11

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 09/01/2009
Date Data Arrived at EDR: 09/02/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 16

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/26/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/21/2009
Date Data Arrived at EDR: 07/23/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 11

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 08/03/2009
Next Scheduled EDR Contact: 11/02/2009
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 06/15/2009
Date Data Arrived at EDR: 06/15/2009
Date Made Active in Reports: 07/20/2009
Number of Days to Update: 35

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 07/13/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 05/28/2009
Date Data Arrived at EDR: 08/13/2009
Date Made Active in Reports: 08/20/2009
Number of Days to Update: 7

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 08/10/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 08/10/2009
Date Data Arrived at EDR: 08/17/2009
Date Made Active in Reports: 08/20/2009
Number of Days to Update: 3

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 08/10/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 09/08/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/11/2009
Date Data Arrived at EDR: 04/23/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 18

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 08/10/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 08/10/2009
Date Data Arrived at EDR: 08/17/2009
Date Made Active in Reports: 08/27/2009
Number of Days to Update: 10

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 08/10/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/12/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/04/2009
Number of Days to Update: 4

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 08/26/2009
Next Scheduled EDR Contact: 11/09/2009
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 08/04/2009
Date Data Arrived at EDR: 08/18/2009
Date Made Active in Reports: 08/27/2009
Number of Days to Update: 9

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/27/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 07/01/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 18
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/28/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/13/2009
Date Data Arrived at EDR: 09/04/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 14
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/05/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/04/2009
Number of Days to Update: 4
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 07/15/2009
Date Data Arrived at EDR: 07/16/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 7
Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 06/28/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/24/2009
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 23
Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 07/27/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 08/24/2009
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/16/2009
Number of Days to Update: 21
Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 07/27/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 06/04/2009
Date Data Arrived at EDR: 07/28/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 6

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/28/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 06/04/2009
Date Data Arrived at EDR: 07/28/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 6

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/28/2009
Next Scheduled EDR Contact: 10/26/2009
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 06/29/2009
Date Data Arrived at EDR: 07/01/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 22

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 07/16/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 28

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 07/02/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 11/01/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 06/16/2009
Date Data Arrived at EDR: 07/01/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 22

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 07/01/2009
Next Scheduled EDR Contact: 09/28/2009
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 12

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 08/21/2009
Date Data Arrived at EDR: 08/21/2009
Date Made Active in Reports: 08/27/2009
Number of Days to Update: 6

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 07/13/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/27/2009
Date Data Arrived at EDR: 07/28/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 6

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 07/06/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 04/07/2009
Date Data Arrived at EDR: 04/07/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 07/06/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 05/29/2009
Date Data Arrived at EDR: 06/01/2009
Date Made Active in Reports: 06/15/2009
Number of Days to Update: 14
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Varies

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/31/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 18
Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 08/31/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 07/01/2009
Date Data Arrived at EDR: 07/07/2009
Date Made Active in Reports: 07/23/2009
Number of Days to Update: 16
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 07/01/2009
Date Data Arrived at EDR: 07/10/2009
Date Made Active in Reports: 07/24/2009
Number of Days to Update: 14
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/21/2009
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/20/2009
Date Data Arrived at EDR: 07/20/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 14
Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 07/20/2009
Next Scheduled EDR Contact: 10/19/2009
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 04/01/2009
Date Data Arrived at EDR: 04/02/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 7

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/28/2009
Date Data Arrived at EDR: 09/08/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 10

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/04/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 11/30/2009
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/04/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 06/26/2009
Date Data Arrived at EDR: 07/09/2009
Date Made Active in Reports: 07/24/2009
Number of Days to Update: 15

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/09/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 07/22/2009
Date Data Arrived at EDR: 09/04/2009
Date Made Active in Reports: 09/16/2009
Number of Days to Update: 12

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/13/2009
Next Scheduled EDR Contact: 10/12/2009
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16
Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 09/09/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 05/05/2009
Date Made Active in Reports: 05/22/2009
Number of Days to Update: 17
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 08/04/2009
Next Scheduled EDR Contact: 11/02/2009
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/22/2009
Date Data Arrived at EDR: 05/27/2009
Date Made Active in Reports: 07/01/2009
Number of Days to Update: 35
Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/27/2009
Next Scheduled EDR Contact: 11/23/2009
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/02/2008
Number of Days to Update: 21
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/08/2009
Next Scheduled EDR Contact: 12/07/2009
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 06/01/2009
Date Data Arrived at EDR: 06/12/2009
Date Made Active in Reports: 06/29/2009
Number of Days to Update: 17
Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/14/2009
Next Scheduled EDR Contact: 12/14/2009
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 07/17/2009
Date Made Active in Reports: 08/10/2009
Number of Days to Update: 24
Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 07/06/2009
Next Scheduled EDR Contact: 10/05/2009
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

LAKEVIEW SUBSTATION
10TH ST. AND RESERVOIR AVE.
LAKEVIEW, CA 92567

TARGET PROPERTY COORDINATES

Latitude (North):	33.82590 - 33° 49' 33.2''
Longitude (West):	117.1331 - 117° 7' 59.2''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	487683.2
UTM Y (Meters):	3742666.5
Elevation:	1444 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	33117-G2 PERRIS, CA
Most Recent Revision:	1979
East Map:	33117-G1 LAKEVIEW, CA
Most Recent Revision:	1979

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

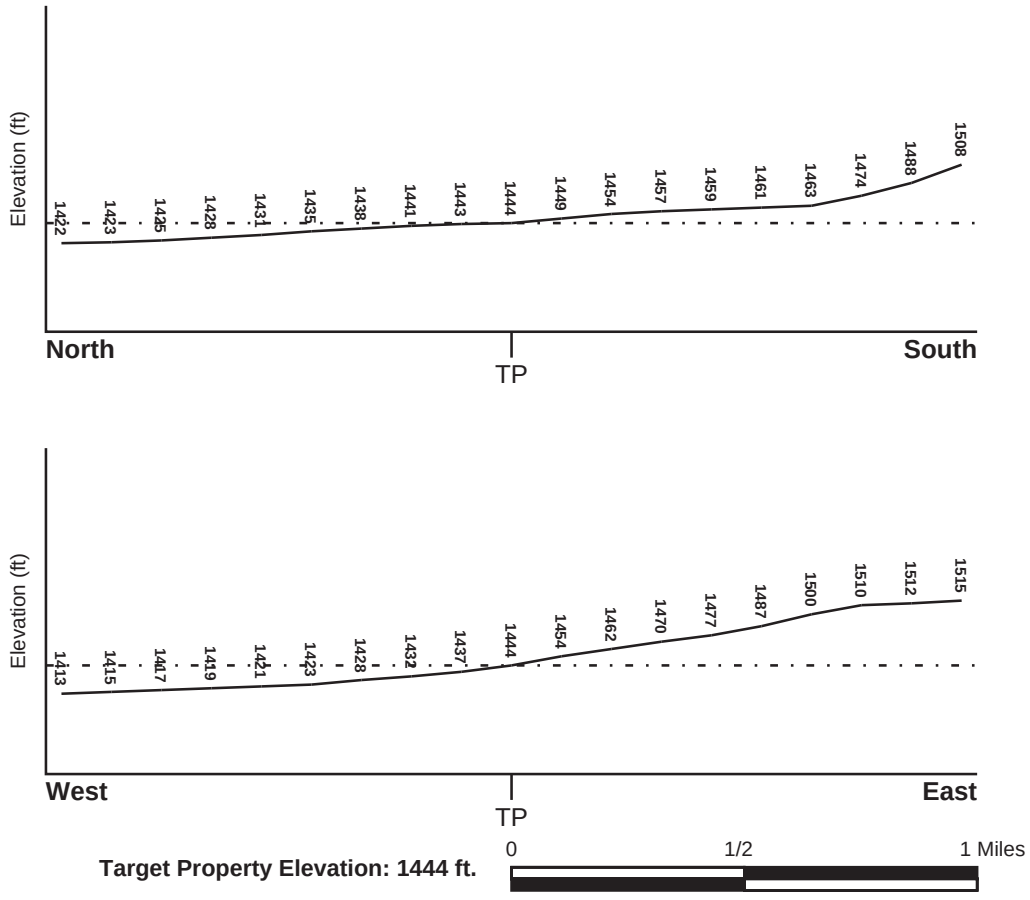
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
RIVERSIDE, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 0602451450C

Additional Panels in search area: 0602451475B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PERRIS	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

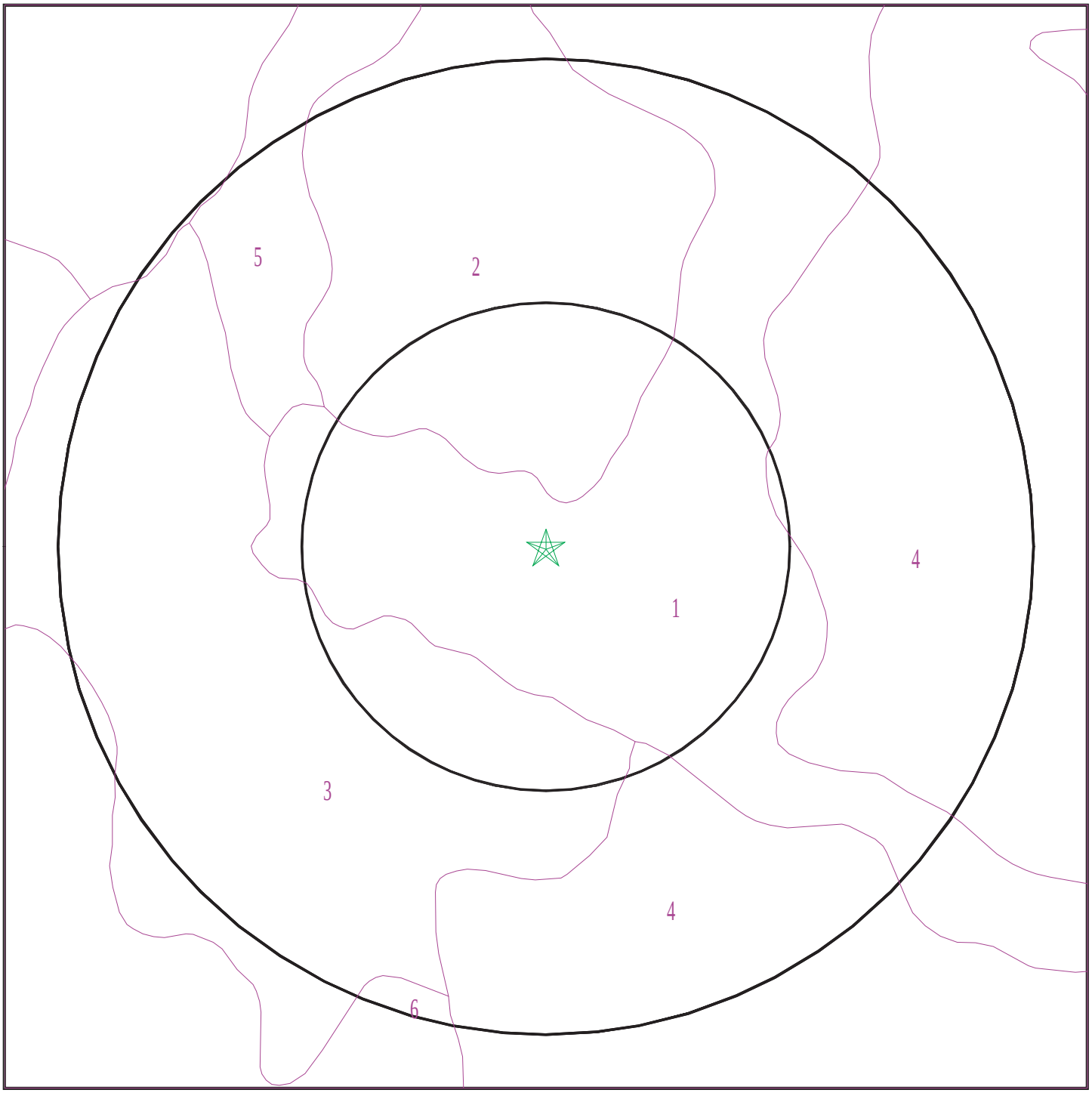
Era:	Mesozoic
System:	Cretaceous
Series:	Cretaceous granitic rocks
Code:	Kg *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2595939.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Lakeview Substation	CLIENT:	Rubicon Engineering Corporation
ADDRESS:	10th St. and Reservoir Ave. Lakeview CA 92567	CONTACT:	Peter Lee
LAT/LONG:	33.8259 / 117.1331	INQUIRY #:	2595939.2s
		DATE:	September 18, 2009 6:15 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: HANFORD

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: EXETER

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	16 inches	37 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	37 inches	50 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
4	50 inches	59 inches	stratified sandy loam to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: PACHAPPA

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.6
2	20 inches	62 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 7.8 Min: 6.6

Soil Map ID: 4

Soil Component Name: GREENFIELD

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	25 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
2	25 inches	42 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
3	42 inches	59 inches	loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
4	59 inches	72 inches	stratified loamy sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 6.6

Soil Map ID: 5

Soil Component Name: PACHAPPA

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	20 inches	40 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	40 inches	62 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 6

Soil Component Name: RAMONA

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	14 inches	22 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	68 inches	sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	68 inches	74 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 7

Soil Component Name: DOMINO

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 9 Min: 7.9
2	14 inches	27 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 9 Min: 7.9
3	27 inches	35 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 9 Min: 7.9
4	35 inches	62 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 4 Min: 1.4	Max: 9 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3124715	1/4 - 1/2 Mile SE
2	USGS3124727	1/4 - 1/2 Mile NNW
3	USGS3124726	1/4 - 1/2 Mile NNE
4	USGS3124723	1/2 - 1 Mile ENE
5	USGS3124710	1/2 - 1 Mile SW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

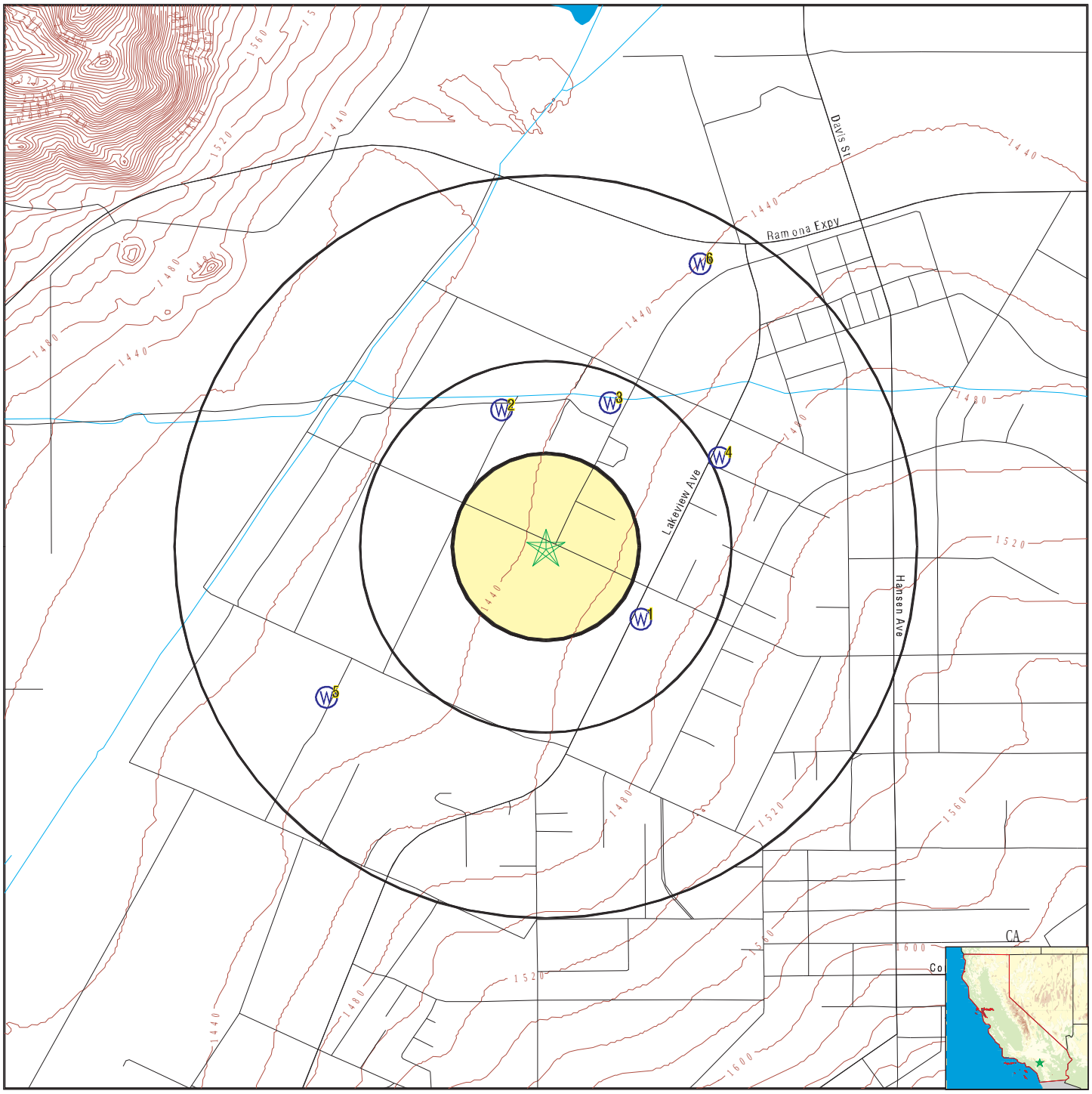
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
6	4798	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 2595939.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Lakeview Substation	CLIENT:	Rubicon Engineering Corporation
ADDRESS:	10th St. and Reservoir Ave. Lakeview CA 92567	CONTACT:	Peter Lee
LAT/LONG:	33.8259 / 117.1331	INQUIRY #:	2595939.2s
		DATE:	September 18, 2009 6:15 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
SE
1/4 - 1/2 Mile
Higher

FED USGS **USGS3124715**

Agency cd:	USGS	Site no:	334923117074001
Site name:	004S002W18G003S		
Latitude:	334923	EDR Site id:	USGS3124715
Longitude:	1170740	Dec lat:	33.82307428
Dec lon:	-117.12864318	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	PERRIS	Map scale:	24000
Altitude:	Not Reported		
Altitude method:	Not Reported		
Altitude accuracy:	Not Reported		
Altitude datum:	Not Reported		
Hydrologic:	San Jacinto. California. Area = 757 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19940915	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	365	Hole depth:	365
Source of depth data:	Not Reported		
Project number:	9479335800		
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

2
NNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS3124727**

Agency cd:	USGS	Site no:	334953117080701
Site name:	004S002W07N001S		
Latitude:	334952.5	EDR Site id:	USGS3124727
Longitude:	1170806.6	Dec lat:	33.83125
Dec lon:	-117.13516667	Coor meth:	G
Coor accr:	5	Latlong datum:	NAD83
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	PERRIS	Map scale:	24000

Altitude:	1428		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Not Reported		
Topographic:	Flat surface		
Site type:	Ground-water other than Spring	Date construction:	19880622
Date inventoried:	20010222	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	CENOZOIC ERATHEM		
Well depth:	907	Hole depth:	915
Source of depth data:	driller		
Project number:	470652422		
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

3
NNE **FED USGS** **USGS3124726**
1/4 - 1/2 Mile
Higher

Agency cd:	USGS	Site no:	334953117074801
Site name:	004S002W07P001S		
Latitude:	334953.5	EDR Site id:	USGS3124726
Longitude:	1170748.3	Dec lat:	33.83152778
Dec lon:	-117.13008333	Coor meth:	G
Coor accr:	5	Latlong datum:	NAD83
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	PERRIS	Map scale:	24000
Altitude:	1445		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	10		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Not Reported		
Topographic:	Flat surface		
Site type:	Ground-water other than Spring	Date construction:	19950307
Date inventoried:	20010222	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	CENOZOIC ERATHEM		
Well depth:	630	Hole depth:	640
Source of depth data:	driller		
Project number:	470652422		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

Peak flow data count: 0
Water quality data begin date: 2001-04-03
Water quality data end date: 2001-04-03
Water quality data count: 1
Ground water data begin date: 2001-03-08
Ground water data end date: 2001-03-08
Ground water data count: 1

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
2001-03-08	217.2	

4
ENE **FED USGS** **USGS3124723**
1/2 - 1 Mile
Lower

Agency cd: USGS
Site no: 334948117072401
Site name: 004S002W18A001S
Latitude: 334945.8
EDR Site id: USGS3124723
Longitude: 1170729.9
Dec lat: 33.82938889
Dec lon: -117.12497222
Coor meth: G
Coor accr: 5
Latlong datum: NAD83
Dec latlong datum: NAD83
District: 06
State: 06
County: 065
Country: US
Land net: Not Reported
Location map: LAKEVIEW
Map scale: 24000
Altitude: 1465
Altitude method: Interpolated from topographic map
Altitude accuracy: 10
Altitude datum: National Geodetic Vertical Datum of 1929
Hydrologic: San Jacinto. California. Area = 757 sq.mi.
Topographic: Not Reported
Site type: Ground-water other than Spring
Date construction: 19630722
Date inventoried: 19940915
Mean greenwich time offset: PST
Local standard time flag: Y
Type of ground water site: Single well, other than collector or Ranney type
Aquifer Type: Unconfined single aquifer
Aquifer: CENOZOIC ERATHEM
Well depth: 518
Hole depth: 518
Source of depth data: other reported
Project number: 470652422
Real time data flag: 0
Daily flow data begin date: 0000-00-00
Daily flow data end date: 0000-00-00
Daily flow data count: 0
Peak flow data begin date: 0000-00-00
Peak flow data end date: 0000-00-00
Peak flow data count: 0
Water quality data begin date: 2001-03-13
Water quality data end date: 2001-03-13
Water quality data count: 1
Ground water data begin date: 2001-03-08
Ground water data end date: 2001-03-08
Ground water data count: 1

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
2001-03-08	266.3	

5
SW **FED USGS** **USGS3124710**
1/2 - 1 Mile
Lower

Agency cd:	USGS	Site no:	334912117083301
Site name:	004S003W13Q001S		
Latitude:	334912	EDR Site id:	USGS3124710
Longitude:	1170833	Dec lat:	33.82001879
Dec lon:	-117.14336611	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	PERRIS	Map scale:	24000
Altitude:	Not Reported		
Altitude method:	Not Reported		
Altitude accuracy:	Not Reported		
Altitude datum:	Not Reported		
Hydrologic:	San Jacinto. California. Area = 757 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	917	Hole depth:	917
Source of depth data:	Not Reported		
Project number:	9479335800		
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

6
NNE
1/2 - 1 Mile
Lower

CA WELLS **4798**

Water System Information:

Prime Station Code:	04S/02W-08E01 S	User ID:	33C
FRDS Number:	3301465001	County:	Riverside
District Number:	63	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	335013.0 1170730.0	Precision:	100 Feet (one Second)
Source Name:	WELL 01		
System Number:	3301465		
System Name:	NUTRILITE PRODUCTS INC		
Organization That Operates System:			
	Not Reported		
	LAKEVIEW, CA 95323		
Pop Served:	65	Connections:	1
Area Served:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Inquiry Number: 2595939.3
September 18, 2009

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/18/09

Site Name:
Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Client Name:
Rubicon Engineering
20 Corporate Park
Irvine, CA 92606

EDR Inquiry # 2595939.3

Contact: Peter Lee

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Rubicon Engineering Corporation were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Lakeview Substation
Address: 10th St. and Reservoir Ave.
City, State, Zip: Lakeview, CA 92567
Cross Street:
P.O. # 1009.27
Project: NA
Certification # AA1A-4243-B08C

Sanborn® Library search results
Certification # AA1A-4243-B08C

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

Limited Permission To Make Copies

Rubicon Engineering Corporation (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Inquiry Number: 2595939.6
September 23, 2009

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

2009 Enhancements to EDR City Directory Abstract

New for 2009, the EDR City Directory Abstract has been enhanced with additional information and features. These enhancements will make your city directory research process more efficient, flexible, and insightful than ever before. The enhancements will improve the options for selecting adjoining properties, and will speed up your review of the report.

City Directory Report. Three important enhancements have been made to the EDR City Directory Abstract:

1. *Executive Summary.* The report begins with an Executive Summary that lists the sources consulted in the preparation of the report. Where available, a parcel map is also provided within the report, showing the locations of properties researched.

2. *Page Images.* Where available, the actual page source images will be included in the Appendix, so that you can review them for information that may provide additional insight. EDR has copyright permission to include these images.

3. *Findings Listed by Location.* Another useful enhancement is that findings are now grouped by address. This will significantly reduce the time you need to review your abstracts. Findings are provided under each property address, listed in reverse chronological order and referencing the source for each entry.

Options for Selecting Adjoining Properties. Ensuring that the right adjoining property addresses are searched is one of the biggest challenges that environmental professionals face when conducting city directory historical research. EDR's new enhancements make it easier for you to meet this challenge. Now, when you place an order for the EDR City Directory Abstract, you have the following choices for determining which addresses should be researched.

1. *You Select Addresses and EDR Selects Addresses.* Use the "Add Another Address" feature to specify the addresses you want researched. Your selections will be supplemented by addresses selected by EDR researchers using our established research methods. Where available, a digital map will be shown, indicating property lines overlaid on a color aerial photo and their corresponding addresses. Simply use the address list below the map to check off which properties shown on the map you want to include. You may also select other addresses using the "Add Another Address" feature at the bottom of the list.

2. *EDR Selects Addresses.* Choose this method if you want EDR's researchers to select the addresses to be researched for you, using our established research methods.

3. *You Select Addresses.* Use this method for research based solely on the addresses you select or enter into the system.

4. *Hold City Directory Research Option.* If you choose to select your own adjoining addresses, you may pause production of your EDR City Directory Abstract report until you have had a chance to look at your other EDR reports and sources. Sources for property addresses include: your Certified Sanborn Map Report may show you the location of property addresses; the new EDR Property Tax Map Report may show the location of property addresses; and your field research can supplement these sources with additional address information. To use this capability, simply click "Hold City Directory research" box under "Other Options" at the bottom of the page. Once you have determined what addresses you want researched, go to your EDR Order Status page, select the EDR City Directory Abstract, and enter the addresses and submit for production.

Questions? Contact your EDR representative at 800-352-0050. For more information about all of EDR's 2009 report and service enhancements, visit www.edrnet.com/2009enhancements

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2007	Haines Criss-Cross Directory	-	X	X	-
2000	Haines Criss-Cross Directory	-	X	X	-
1995	Haines Criss-Cross Directory	-	X	X	-
1991	Haines Criss-Cross Directory	-	X	X	-
1985	Haines Criss-Cross Directory	-	X	X	-
1981	Haines Criss-Cross Directory	-	X	X	-
1975	Haines Criss-Cross Directory	-	X	X	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	*Type*	*Findings*
30515 10 TH ST	Client Entered	
30021 RESERVOIR AVE	Client Entered	X

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

10th St. and Reservoir Ave.
Lakeview, CA 92567

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

10 TH ST

10 TH ST

Year	Uses	Source
2007	No address listings beyond (4545) 10th St	Haines Criss-Cross Directory
2000	No other addresses (30400-40699) block 10th St	Haines Criss-Cross Directory
1995	No other addresses (30400-40699) block 10th St	Haines Criss-Cross Directory
1991	No other addresses (30400-40699) block 10th St	Haines Criss-Cross Directory
1985	No other addresses (30400-40699) block 10th St	Haines Criss-Cross Directory
1981	No other addresses (30400-40699) block 10th St	Haines Criss-Cross Directory
1975	No other addresses (30400-40699) block 10th St	Haines Criss-Cross Directory

30490 10 TH ST

Year	Uses	Source
2000	Residential	Haines Criss-Cross Directory
1995	Lakeview Ranch Sply	Haines Criss-Cross Directory
	Neview Feed	Haines Criss-Cross Directory
1991	Lakeview Ranch Prds	Haines Criss-Cross Directory
1985	T L C Horse Vanning	Haines Criss-Cross Directory
1975	Residential	Haines Criss-Cross Directory

30501 10 TH ST

Year	Uses	Source
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory

30545 10 TH ST

Year	Uses	Source
2000	Munoz Construction	Haines Criss-Cross Directory
1995	Munoz Construction	Haines Criss-Cross Directory

FINDINGS

30645 10 TH ST

Year	*Uses*	*Source*
2000	Residential	Haines Criss-Cross Directory

RESERVOIR AVE

RESERVOIR AVE

Year	*Uses*	*Source*
2007	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory
2000	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory
1995	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory
1991	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory
1985	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory
1981	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory
1975	No other addresses (29900-30199) block Resevoir Ave	Haines Criss-Cross Directory

30021 RESERVOIR AVE

Year	*Uses*	*Source*
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory
1991	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory
1975	Residential	Haines Criss-Cross Directory

30090 RESERVOIR AVE

Year	*Uses*	*Source*
2007	No Return	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory
1991	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory

FINDINGS

30099 RESERVOIR AVE

Year	*Uses*	*Source*
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory

30120 RESERVOIR AVE

Year	*Uses*	*Source*
2007	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1991	No Return	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory

30175 RESERVOIR AVE

Year	*Uses*	*Source*
2000	Residential	Haines Criss-Cross Directory
1991	No Return	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory
1981	Residential	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY: ADDRESS NOT LISTED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not listed in the research source.

Address Researched	Address Not Listed in Research Source
10th St. and Reservoir Ave.	2007, 2000, 1995, 1991, 1985, 1981, 1975

ADJOINING PROPERTY: ADDRESSES NOT LISTED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not listed in research source.

Address Researched	Address Not Listed in Research Source
30090 RESERVOIR AVE	1975
30099 RESERVOIR AVE	1995, 1991, 1985, 1981, 1975
30120 RESERVOIR AVE	1995, 1975
30175 RESERVOIR AVE	1995, 1975
30490 10 TH ST	1981
30501 10 TH ST	1991, 1985, 1981, 1975
30515 10 TH ST	2007, 2000, 1995, 1991, 1985, 1981, 1975
30545 10 TH ST	1991, 1985, 1981, 1975
30645 10 TH ST	1995, 1991, 1985, 1981, 1975

Lakeview Substation
10th St. and Reservoir Ave.
Lakeview, CA 92567

Inquiry Number: 2595939.7
September 21, 2009

The EDR Environmental LienSearch™ Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

The EDR Environmental LienSearch™ Report

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

The EDR Environmental LienSearch™ Report

TARGET PROPERTY INFORMATION

ADDRESS

10th St. and Reservoir Ave.
Lakeview Substation
Lakeview, CA 92567

RESEARCH SOURCE

Source 1:
Riverside Recorder
RIVERSIDE, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Sandra Pagliuso Frank S Lauda Trustees
Title received from:	Riverpark Investors LLC
Deed Dated	10/31/2007
Deed Recorded:	11/16/2007
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	See Exhibit
Miscellaneous Comments:	na
Legal Description:	See Exhibit
Legal Current Owner:	Sandra Pagliuso Frank S Lauda Trustees
Property Identifiers:	426-180-003
Comments:	See Exhibit

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

Deed Exhibit 1

10CH

1208694

DOC # 2007-0700567
11/16/2007 08:00A Fee:51.00
Page 1 of 9
Recorded in Official Records
County of Riverside
Larry W. Ward
Assessor, County Clerk & Recorder

RECORDING REQUESTED BY
First American Title Company

AND WHEN RECORDED MAIL DOCUMENT AND TAX STATEMENT TO:
The Frank Lauda, Jr. Trust
12534 Harlow Avenue
Riverside, CA 92503

$	R	U	PAGE	SIZE	DA	MISC	LONG	RFD	COPY
M	A	L	465	426	PCOR	NCOR	SMF	NCHG	EXAM
				T:			CTY	UNI	

Tra: 083

File No.: RRI-1208694 (DD)

The Undersigned Grantor(s) Declare(s):
CITY TRANSFER TAX $
DOCUMENTARY TRANSFER TAX $ Ø No Consideration
SURVEY MONUMENT FEE $
[x] computed on the consideration or full value of property conveyed, OR
[ ] computed on the consideration or full value less value of liens and/or encumbrances remaining at time of sale,
[x] unincorporated area; [ ] City of, and
SURVEY MONUMENT FEE $

$1

T
056

QUITCLAIM DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

Riverpark Investors, LLC, a California limited liability company

does hereby remise, release and forever quitclaim to

Sandra Pagliuso and Frank S. Lauda, Co-Trustees of The Frank Lauda, Jr. Trust, a California Trust

the following described property in the Unincorporated area of Riverside County, State of California:

as is more particularly described in Exhibit "A" hereto

"THIS QUITCLAIM DEED IS BEING RECORDED TO ELIMINATE FROM OFFICIAL RECORDS THAT CERTAIN MEMORANDUM OF AGREEMENT RECORDED BY AND BETWEEN THE UNDERSIGNED PARTIES RECORDED FEBRUARY 6, 2004, AS INSTRUMENT NUMBER 2004-0087555 OF OFFICIAL RECORDS"

Dated: October 31, 2007

Mail Tax Statements To: **SAME AS ABOVE**

File No.: RRI-1208694 (DD)

Riverpark Investors, LLC
a California limited liability company

By: Paul Garrett, Managing Member

STATE OF CALIFORNIA)SS
COUNTY OF RIVERSIDE)

On NOVEMBER 13 2007, before me, JOYCE A CROSBY, NOTARY PUBLIC
Notary Public, personally appeared PAUL GARRETT, personally known to me
(~~or proved to me on the basis of satisfactory evidence~~) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she~~/~~they~~ executed the same in his/~~her~~/~~their~~ authorized capacity(~~ies~~) and that by his/~~her~~/~~their~~ signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

JOYCE A. CROSBY
Comm. # 1477196
NOTARY PUBLIC - CALIFORNIA
Riverside County
My Comm. Expires MAR. 16,2008

Signature
Joyce A Crosby, Notary Public

My Commission Expires: MARCH 16, 2008

This area for official notarial seal

Notary Name: JOYCE A. CROSBY
Notary Registration Number: 1477196

Notary Phone: 951 - 506-6552
County of Principal Place of Business: RIVERSIDE

EXHIBIT "A"

LEGAL DESCRIPTION

Real property in the unincorporated area of the County of Riverside, State of California, described as follows:

PARCEL 1:

THAT PORTION OF LOT 5 OF PARTITION OF RANCHO SAN JACINTO NUEVO AS SET APART TO JOHN WOLFSKILL IN DECREE OF PARTITION DATED MAY 22, 1891, IN SUPERIOR COURT, SAN DIEGO COUNTY, A CERTIFIED COPY OF WHICH WAS RECORDED JUNE 18, 1891 IN BOOK 178 PAGE 381 OF DEEDS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, LYING WITHIN SECTIONS 12, 13, 14, 23 AND 24, TOWNSHIP 4 SOUTH, RANGE 2 WEST, SAND BERNARDINO BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE WEST LINE OF SAID LOT 5 WITH THE SOUTH LINE OF SAID SECTION 23;

THENCE NORTH ALONG THE WESTERLY LINE OF SAID LOT, TO A POINT ON NORTHERWESTERLY LINE OF THE SAN JACINTO DRAINAGE CANAL AS LOCATED ON NOVEMBER 7, 1929, AS SET FORTH IN DEED FROM THE NUEVO LAND COMPANY RECORDED MARCH 25, 1930 IN BOOK 846 PAGE 399 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, SAID POINT BEING THE TRUE POINT OF BEGINNING;

THENCE CONTINUING NORTH ON SAID WEST LINE OF LOT 5 TO ITS INTERSECTION WITH THE SAN JACINTO DRAINAGE DISTRICT BOUNDARY AS SHOWN ON RECORD OF SURVEY ON FILE IN BOOK 56 PAGES 44 THROUGH 49 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTHEASTERLY ALONG SAID SAN JACINTO DRAINAGE DISTRICT BOUNDARY TO ITS INTERSECTION WITH THE SOUTH LINE OF LOT 1 IN SECTION 14 AS SHOWN ON MAP OF PERRIS VALLEY LAND AND WATER COMPANY TRACT, ON FILE IN BOOK 7 PAGE 38 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA SAID INTERSECTION IS ALSO SHOWN ON SAID RECORD OF SURVEY ON FILE IN BOOK 56 PAGES 44 THROUGH 49 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE EASTERLY ALONG THE SOUTHERLY LINE OF SAID LOT 1 TO CORNER NUMBER 8 OF SAID LOT 5;

THENCE NORTH ALONG THE WESTERLY LINE OF SAID SECTIONS 13 AND 12 TO ITS INTERSECTION WITH THE SOUTHERLY LINE OF LANDS CONVEYED TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, BY DEED RECORDED FEBRUARY 5, 1971 AS INSTRUMENT NO. 11661 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE EASTERLY ALONG SAID SOUTHERLY LINE TO ITS INTERSECTION WITH THE NORTHWEST BOUNDARY LINE OF RIVERSIDE COUNTY DRAINAGE DISTRICT NO. 2;

THENCE SOUTHWEST ALONG SAID NORTHWEST BOUNDARY LINE TO ITS INTERSECTION WITH THE NORTHERLY LINE OF SAID SECTION 13;

THENCE EASTERLY ALONG SAID NORTHERLY LINE TO ITS INTERSECTION WITH THE SOUTHEASTERLY LIEN OF THAT CERTAIN 100-FOOT WIDE STRIP OF LAND FORMERLY

INCLUDED IN THE RAILROAD RIGHT OF WAY OF THE CALIFORNIA, ARIZONA AND SANTA FE RAILWAY AND DESCRIBED IN THE DEED TO W. W. STEWART, RECORDED DECEMBER 11, 1941 IN BOOK 523 PAGE 522 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTHEASTERLY ALONG SAID SOUTHEASTERLY LINE OF THAT CERTAIN 100-FOOT WIDE STRIP TO ITS INTERSECTION WITH THE SOUTHERLY LINE OF LANDS CONVEYED TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY DEED RECORDED FEBRUARY 5, 1971 AS INSTRUMENT NO. 11661 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE EAST ALONG SAID SOUTHERLY LINE TO ITS INTERSECTION WITH THE WESTERLY LINE OF LANDS CONVEYED TO WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, BY DEED FROM FRANK LAUDA AND NATIS LAUDA, RECORDED FEBRUARY 28, 1964 IN BOOK 3624 PAGE 264 AND RE-RECORDED APRIL 20, 1970 AS INSTRUMENT NO. 36618 BOTH OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, SAID INTERSECTION BEING SHOWN ON RECORD OF SURVEY ON FILE IN BOOK 60 PAGES 42 THROUGH 45 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE SOUTH 02° 10' 50" EAST ALONG SAID WESTERLY LINE A DISTANCE OF 140.00 FEET TO THE SOUTHWEST CORNER OF THE PROPERTY DESCRIBED IN SAID INSTRUMENT NO. 36618;

THENCE NORTH 87° 39' 10" EAST ALONG THE SOUTHERLY LINE OF SAID INSTRUMENT NO. 36618, A DISTANCE OF 165.00 FEET TO THE SOUTHEAST CORNER OF THE PROPERTY DESCRIBED IN SAID INSTRUMENT NO. 36618;

THENCE NORTH 02° 10' 50" WEST ALONG THE EASTERLY LINE OF THE PROPERTY DESCRIBED IN SAID INSTRUMENT NO. 36618, A DISTANCE OF 140.00 FEET TO ITS INTERSECTION WITH THE SOUTHERLY LINE OF THE PROPERTY DESCRIBED IN SAID INSTRUMENT RECORDED FEBRUARY 5, 1971 AS INSTRUMENT NO. 11661 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTH 87° 39' 10" EAST ALONG SAID SOUTHERLY LINE AS SHOWN ON SAID RECORD OF SURVEY ON FILE IN BOOK 60 PAGES 42 THROUGH 45 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, A DISTANCE OF 619.54 FEET;

THENCE SOUTH 82° 02' 30" EAST CONTINUING ALONG THE SOUTHERLY LINE OF THE METROPOLITAN WATER DISTRICT BOUNDARY AS SHOWN ON SAID RECORD OF SURVEY ON FILE IN BOOK 60 PAGES 42 THROUGH 45 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNT, CALIFORNIA A DISTANCE OF 111.80 FEET;

THENCE SOUTH 02° 20' 50" EAST, 55.00 FEET; THENCE NORTH 87° 39' 10" EAST, 56.00 FEET; THENCE SOUTH 29° 09' 25" EAST, 113.33 FEET TO A POINT ON THE NORTHWESTERLY LINE OF SAID SAN JACINTO DRAINAGE CANAL;

THENCE SOUTHWESTERLY ALONG THE NORTHWESTERLY LINE OF SAID SAN JACINTO DRAINAGE CANAL TO THE TRUE POINT OF BEGINNING;

EXCEPTING THEREFROM THAT PORTION OF THE STRIP OF LAND 100 FEET IN WIDTH CONVEYED TO PERRIS AND LAKEVIEW RAILWAY COMPANY, A CALIFORNIA CORPORATION, BY DEED RECORDED NOVEMBER 19, 1898 IN BOOK 76 PAGE 91 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, LYING SOUTHERLY OF THE WESTERLY EXTENSION OF THE NORTHERLY LINE OF LOT 4 OF SAID MAP OF PERRIS VALLEY LAND AND WATER COMPANY.

PARCEL 2:

LOTS 106, 111, 112 AND 117 OF TRACT NO. 4 OF THE LANDS OF THE NUEVO LAND COMPANY AS SHOWN BY MAP ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; EXCEPTING THEREFROM THAT PORTION THEREOF LYING SOUTHEASTERLY OF A LINE DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE CENTER LINE OF TWELFTH STREET, AS SHOWN ON SAID MAP, WHICH BEARS SOUTH 65` 27' EAST, 407.98 FEET FROM ITS INTERSECTION WITH THE CENTER LINE OF "C" AVENUE, AS SHOWN ON SAID MAP; THENCE NORTH 3` 35' EAST, PARALLEL WITH SAID CENTER LINE OF "C" AVENUE, 2674 FEET TO A POINT IN THE CENTER LINE OF ELEVENTH STREET, AS SHOWN ON SAID MAP.

ALSO EXCEPTING THEREFROM THE PORTION OF SAID LAND CONVEYED TO THE RIVERSIDE COUNTY HABITAT CONSERVATION AGENCY, A PUBLIC AGENCY BY THAT CERTAIN GRANT DEED RECORDED DECEMBER 27, 1994 AS INSTRUMENT NO. 478959 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 3:

THAT PORTION OF LOT 5 OF THE PARTITION OF THE RANCHO SAN JACINTO NUEVO, AS SET A PART TO JOHN WOLF SKILL IN DECREE OF PARTITION DATED MAY 22, 1891, IN SUPERIOR COURT, SAN DIEGO COUNTY, A CERTIFIED COPY OF WHICH WAS RECORDED JUNE 18, 1891 IN BOOK 178 PAGE 381 OF DEEDS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, LYING WITH IN SECTION 23, TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAND BERNARDINO BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE WEST LINE OF SAID LOT 5 WITH THE SOUTH LINE OF SAID SECTION 23;

THENCE EAST ALONG THE SOUTH LINE OF SAID SECTION TO A POINT ON THE NORTHWESTERLY LINE OF "B", AVENUE, AS SHOWN ON MAP NO. 2 OF LAKEVIEW ON FILE IN BOOK 1 PAGES 26 AND 27 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTHEASTERLY ALONG THE NORTHWESTERLY LIEN OF SAID "B" AVENUE, TO THE INTERSECTION WITH THE NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY LINE OF FOURTEENTH STREET, AS SHOWN ON SAID MAP;

THENCE SOUTHEASTERLY ALONG SAID NORTHWESTERLY EXTENSION OF THE NORTHEASTERLY LINE OF FOURTEENTH STREET AND ALONG SAID NORTHEASTERLY LINE TO A POINT ON THE NORTHWESTERLY LINE OF CHASE AVENUE, AS SHOWN ON MAP OF TRACT NO. 1 OF THE LANDS OF THE NUEVO LAND COMPANY ON FILE IN BOOK 9 PAGE 30 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTHEASTERLY ALONG THE SAID NORTHWESTERLY LINE OF CHASE AVENUE TO ITS INTERSECTION WITH THE EAST LINE OF SAID SECTION 23;

THENCE NORTH ALONG THE EAST LINE OF SAID SECTION 23 TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF THE SAN JACINTO DRAINAGE CANAL AS LOCATED ON NOVEMBER 7, 1929, AS SET FORTH IN DEED FROM THE NUEVO LAND COMPANY, RECORD MARCH 25, 1930 IN BOOK 846 PAGE 399 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE SOUTHWESTERLY ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE TO A POINT ON THE WEST LINE OF SAID LOT 5;

THENCE SOUTHERLY ALONG THE WESTERLY LINE OF SAID LOT 5 TO THE POINT OF BEGINNING;

TOGETHER WITH THAT PORTION OF SAID LOT 5 OF PARTITION OF RANCHO SAN JACINTO NUEVO, LYING WITH SECTION 24, TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, AND LYING NORTHWESTERLY OF THE NORTHWESTERLY LINE OF CHASE AVENUE, AS SHOWN ON MAP OF TRACT NO. 1 OF THE LANDS OF THE NUEVO LAND COMPANY, ON FILE IN BOOK 9 PAGE 30 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

ALSO TOGETHER WITH THAT PORTION OF SAID LOT 5 OF PARTITION OF RANCH SAN JACINTO NUEVO, LYING WITHIN SECTION 13, TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID SECTION 13;

THENCE EAST ALONG THE SOUTH LINE OF SAID SECTION TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LIEN OF THE SAN JACINTO DRAINAGE CANAL LOCATED ON NOVEMBER 7, 1929, 12 SET FORTH IN DEED FROM THE NUEVO LAND COMPANY, RECORDED MARCH 25, 1930 IN BOOK 846 PAGE 399 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA; SAID POINT BEING THE TRUE POINT OF BEGINNING;

THENCE CONTINUING EAST ALONG THE SOUTH LINE OF SAID SECTION TO A POINT ON THE NORTHWESTERLY LINE OF CHASE AVENUE, AS SHOWN ON MAP OF TRACT NO. 1 OF THE LANDS OF THE NUEVO LAND COMPANY ON FILE IN BOOK 9 PAGE 30 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTHEASTERLY ALONG SAID NORTHWESTERLY LINE TO A POINT ON THE SOUTHWESTERLY LINE OF TWELFTH STREET, AS SHOWN ON MAP OF TRACT NO. 4 OF THE LANDS OF NUEVO LAND COMPANY ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

THENCE NORTHWESTERLY ALONG SAID SOUTHWESTERLY LINE OF TWELFTH STREET TO A POINT ON THE NORTHWESTERLY LINE OF "C" AVENUE, AS SHOWN ON SAID MAP OF TRACT NO. 4; SAID POINT IS ALSO ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF SAID SAN JACINTO DRAINAGE CANAL;

THENCE SOUTHWESTERLY ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE TO THE TRUE POINT OF BEGINNING;

EXCEPTING THEREFROM THAT PORTION LYING NORTHWESTERLY OF THE SOUTHEASTERLY LIEN OF THE SAN JACINTO DRAINAGE CANAL AS LOCATED ON NOVEMBER 7, 1929, AS SET FORTH IN DEED FROM THE NUEVO LAND COMPANY, RECORDED MARCH 25, 1930 IN BOOK 846 PAGE 399 OF DEEDS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

ALSO EXCEPTING THEREFROM THAT PORTION OF SAID LAND CONVEYED TO THE RIVERSIDE COUNTY HABITAT CONSERVATION AGENCY, A PUBLIC AGENCY BY THAT CERTAIN GRANT DEED RECORDED DECEMBER 27, 1994 AS INSTRUMENT NO. 478959 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 4: LOTS 4, 5, 6, 7, 11 AND 12 OF TRACT NO. 1 OF THE LANDS OF THE NUEVO LAND COMPANY, AS SHOWN BY MAP ON FILE IN BOOK 9 GAGE 30 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

EXCEPTING FROM SAID LOT 7 THAT PORTION THERE OF LYING SOUTHWESTERLY OF A LINE DRAWN FROM A POINT ON THE NORTHWESTERLY LINE. 434.38 FEET FROM THE MOST WESTERLY CORNER THEREOF TO A POINT ON THE SOUTHEASTERLY LINE 437.17 FEET FROM THE MOST SOUTHERLY CORNER THEREOF.

PARCEL 5:

LOTS 118, 119, 120, 128, 129, 130, 131, 132, 133, 134, 135, 142, 143, 144, 145, 147, 148, 149, 150 AND 155 OF TRACT NO. 4 OF THE LAND S OF THE NUEVO LAND COMPANY AS SHOWN BY MAP ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 6:

THOSE PORTIONS OF LOTS 157, 158 AND 163 OF TRACT NO. 4 OF THE LANDS OF THE NUEVO LAND COMPANY AS SHOWN BY MAP ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFONRIA; LYING SOUTHERLY OF THE SOUTHERLY LINE OF THAT CERTAIN STRIP OF LAND, 25 FEE IN WIDTH CONVEYED TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY DOCUMENT RECORDED FEBRUARY 5, 1971 AS INSTRUMENT NO. 11666 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

PARCEL 7:

LOT 141 OF TRACT NO. 4 OF THE LAND S OF TH NUEVO LAND COMPANY, AS SHOWN BY MAP ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

TOGETHER WITH THE WESTERLY HALF OF THAT PORTION OF RESERVOIR AVENUE ADJACENT TO AN ADJOINING SAID LOT 141, AS ABANDONED BY RESOLUTION OF THE BOARD OF SUPERVISORS OF RIVERSIDE COUNTY, STATE OF CALIFORNIA, A CERTIFIED COPY OF SAID RESOLUTION HAVING BEEN RECORDED OCTOBER 14, 1954 IN BOOK 1640 PAGE 577 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

EXCEPTING THEREFROM THE SOUTHWESTERLY 2.5 ACRES AS CONVEYED TO FRANK T. YBARROLA AND ETHEL YBARROLA BE DEED RECORDED JANUARY 24, 1949 IN BOOK 1046 PAGE 161 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 8:

LOT 156 OF TRACT NO. 4 OF THE LANDS OF THE NUEVO LAND COMPANY AS SHOWN BY MAP ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

EXCEPTING THEREFROM THE NORTHEASTERLY 2.5 ACRES AS CONVEYED TO JOHN W. BUCHANAN AND EUGENIE H. BUCHANAN BY DEED RECORDED JULY 3, 1970 AS INSTRUMENT NO. 63727 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 9:

LOT 164 OF TRACT NO. 4 OF THE LANDS OF THE NUEVO LAND COMPANY, AS SHOWN BY MAP ON FILE IN BOOK 10 PAGE 22 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

EXCEPTING THEREFROM THE NORTHEASTERLY 2.5 ACRES AS CONVEYED TO PETE VASQUEZ AND THOMASITA VASQUEZ BY DEED RECORDED MARCH 31, 1945 IN BOOK 668 PAGE 117 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 10:

THAT PORTION OF LOTS 1 AND 2 IN BLOCK 23, AS SHOWN BY MAP NO. 2 OF LAKEVIEW ON FILE IN BOOK 1 PAGES 26 AND 27 OF MAPS RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, LYING NORTHWESTERLY OF THE NORTHWESTERLY LIEN OF CHASE AVENUE, AS SHOWN BY MAP OF TRACT NO. 1 OF THE LANDS OF THE NUEVO LAND COMPANY ON FILE IN BOOK 9 PAGE 30 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, AND LYING NORTHEASTERLY OF THE SOUTHERLY LINE OF SECTION 23 IN TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN.

PARCEL 11:

THAT PORTION OF LOT 7 IN SECTION 11, TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, AS SHOWN ON THE MAP OF PERRIS VALLEY LAND AND WATER COMPANY TRACT, ON FILE IN BOOK 7 PAGE 38 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID LOT;

THENCE SOUTHERLY ALONG THE EASTERLY LINE OF SAID LOT TO A POINT THAT IS ON A LINE DRAWN PARALLEL WITH AND 1000 FEET NORTHERLY FROM THE SOUTHERLY LINE OF SAID SECTION;

THENCE WESTERLY ALONG SAID LINE TO THE JUNCTION OF THE HILL LAND AND THE TILLABLE LAND; THENCE FOLLOWING ALONG THE BASE OF THE HILL LAND TO THE WESTERLY LINE OF SAID LOT;

THENCE NORTHERLY ALONG THE WESTERLY LINE OF SAID LOT TO THE NORTHWEST CORNER OF SAID LOT;

THENCE EASTERLY ALONG THE NORTHERLY LINE OF SAID LOT THE POINT OF BEGINNING;

EXCEPTING THEREFROM THOSE PORTION THEREOF CONVEYED TO THE STATE OF CALIFORNIA BY DEEDS, RECORDED APRIL 25, 1967 AS INSTRUMENT NO. 34911, FEBRUARY 24, 1970 AS INSTRUMENT NO. 16870 AND JANUARY 28, 1971 AS INSTRUMENT NO. 8945 ALL OF TH OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 12:

LOT 8 IN SECTION 1, TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, AS SHOWN OF THE MAP OF PERRIS VALLEY LAND AND WATER COMPANY TRACT ON FILE IN BOOK 7 PAGE 38 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFONRIA;

EXCEPTING THEREFROM THE SOUTHERLY 1000 FEET THEREOF BEING MEASURED FROM THE SOUTHERLY LINE OF SAID SECTION;

ALSO EXCEPTING THEREFROM THAT PORTION GRANTED TO THE STATE OF CALIFORNIA BY DEED, RECORDED APRIL 25, 1967 AS INSTRUMENT NO. 34911 OF OFFICIAL RECORDS OF

RIVERSIDE COUNTY, CALIFORNIA;

ALSO EXCEPTING THEREFROM THAT PORTION THEREOF CONVEYED TO THE STATE OF CALIFORNIA BY DOCUMENT RECORDED FEBRUARY 24, 1970 AS INSTRUMENT NO. 16870 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 13:

THAT PORTION OF LOT 5 OF PARTITION OF RANCHO SAN JACINTO NUEVO AS SET APART TO JOHN WOLFSKILL IN DECREE OF PARTITION DATED MAY 22, 1891 IN SUPERIOR COURT, SAN DIEGO COUNT,Y A CERTIFIED COPY OF WHICH WAS RECORDED JUNE 18, 1891 IN BOOK 178 PAGE 381 OF DEEDS, RECORDS OF SAN DIEGO COUNTY, CALIFORNIA, LYING WITHIN THE SOUTHWEST QUARTER OF SECTION 12, TOWNSHIP 4 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN;

EXCEPTING THEREFROM THAT PORTION THEREOF LYING SOUTHEASTERLY OF THE DRAINAGE DISTRICT BOUNDARY LINE;

ALSO EXCEPTING THEREFROM THAT PORTION LYING SOUTHERLY OF THAT PORTION THEREOF AS CONDEMNED IN FAVOR OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY ORDER OF CONDEMNATION IN SUFERIOR COURT, RIVERSIDE COUNTY, CASE NO. 25177, CERTIFIED COPY OF WHICH WAS RECORDED DECEMBER 21, 1935 IN BOOK 261 PAGE 403 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

ALSO EXCEPTING THEREFROM THOSE PORTIONS GRANTED TO WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY, A PUBLIC CORPORATION, BY DEEDS RECORDED FEBRUARY 28, 1964 AS INSTRUMENT NO. 25769 AND NO. 25770 BOTH OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

APN:
426.440.001, 426.430.005, 426.180.001, 426.180.002, 426.180.003, 426.020.005, 307.110.004, 307.110.005, 307.110.006, 307.120.001, 307.120.002, 307.120.002, 307.120.004, 307.220.003, 307.220.005, 308.140.012, 307.210.001, 307.210.019, 307.210.021, 307.120.008, 307.210.010, 307.200.001, 307.130.070, 307.220.010, 307.220.012, 308.130.005, 308.130.008, 308.140.006, 308.150.009, 308.150.012

Appendix D

User Questionnaire

USER QUESTIONNAIRE FOR "AAI" PHASE I ESA

CURRENT SITE ADDRESS (FORMER ADDRESS, if applicable): APN: 426-180-003

Landowner Liability Protections, or *LLPs*, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Quality for Bona Fide Prospective Purchase, Contiguous Property Owner, or Innocent Landowner Limitations* on *CERCLA* liability ("Common Elements" Guide) issued on March 6, 2003.

In order to qualify for one of the *LLPs* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"; P.L. 107-118), the *User* (i.e. an Edison representative) must provide the following information (i.e. the institutional knowledge that is available) to the *Environmental Professional* ("*EP*"). Failure to provide this information could result in a determination that "*all appropriate inquiry*" has not been completed. Use additional paper if necessary.

1. Environmental cleanup liens that are filed or recorded again the site (40 CFR 312.25):

- Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law?

NO X *YES (explain)*_____

2. Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).

- Are you aware of any AULs such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

NO X *YES (explain)*_____

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28):

- As the *User* of this ESA, do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

NO X *YES (explain)*_____

4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29):

- Does the purchase price being paid for this *property* reasonably reflect the value of the *property*? *YES* X
- If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

NOT APPLICABLE (I.E. THERE IS NO DIFFERENCE) _ *YES (explain)*_____

5. Commonly known or reasonably ascertainable information about the *property* (40 CFR 312.30):

- Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *EP* to identify conditions indicative of releases or threatened releases? As *User*, do you know:

1. Past uses of the *property*? *NO*__ *YES (explain)* POTATO FARM
2. Specific chemicals that are present or once were present at the *property*? *NO* X *YES (explain)*_____
3. Spills or other chemical releases that have taken place at the *property*? *NO* X *YES (explain)*_
4. Environmental cleanups that have taken place at the *property*? *NO* X *YES (explain)*_____

6. The degree of obviousness of the presence or likely presence of contamination at the *property* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

- As the *User* of this ESA, based on your knowledge and experience related to the *property*, are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

NO X *YES (explain)* _____

JUSTIN LARSON, LAND SERVICES AGENT — Completed By/Title

OCT. 1, 2009 — Date

Please return this completed form to [Engineer], GO3 3rd Floor, G10.

USER QUESTIONNAIRE FOR "AAI" PHASE I ESA
(CONFIDENTIAL - FOR SCE'S INTERNAL USE)

CURRENT SITE ADDRESS (FORMER ADDRESS, if applicable): APN: 426-180-003

In addition to the specific questions required by industry standards for Environmental Site Assessments (ESAs), the requestor of the ESA must provide to Environmental Engineering the following information. For any questions on how to complete the questionnaire or supply the required information, please contact [Engineer]at PAX 2-xxxx.

1. The reason why the Phase I ESA is required (i.e. property transaction, support to regulatory filling, litigation, etc.)

PROPERTY ACQUISITION FOR SUBSTATION SITE

2. Names and contact information of individuals familiar with the property and/or the project:

Internal (Name and PAX)

JUSTIN LARSON PAX: 54539

External *(Name, organization, address, email, telephone number, contact protocol – i.e. can the EP make direct contact?)*

FRANK LAVOA – (951) 737-2761
fslavda@yahoo.com

3. Documents of interest:

Does SCE possess any of the following documents associated with the subject property?	**Available YES**	**NO**
Phase I Environmental Site Assessment Reports		X
Phase II Subsurface Investigation Reports		X
Environmental Audit Reports		X
Property Information Sheet (Non-Residential properties)	X	
Environmental Permits (NPDES, industrial wastewater, solid waste, hazardous waste, etc.)		X
Underground or Aboveground Tank Registration		X
Hazardous Waste Generator Notices or Reports		X
Material Safety Data Sheets (for chemicals in quantities greater than 5 gallons)		X
Community Right-to-Know Plans		X
Spill Prevention and Control Plans		X
Past or Current Violation Notices at the Site		X
Environmental Liens on the Site		X
Geo-Technical Studies		X
Chain of title report		X

If yes, or if SCE has any other reports, provide copies to [Engineer], GO3 3rd Floor, G10.

4. Other pertinent information that the EP should know:

Provide any other pertinent information that would facilitate the completion of the ESA and enhance SCE's interest by conducting the ESA. For example, is there any opposition to the project/transaction, should SCE's interest in the project be kept confidential, does SCE have secured access rights to the subject property for conducting the ESA, are there any limitations to these rights, etc.

5. SAP accounting for the project:

80006362.0

JUSTIN LARSON

OCT. 1 2009
Date

Please return this completed form to [Engineer], GO3 3rd Floor, G10.

Appendix E

Photographs

(1). Subject Site Looking Southwest

(2). Subject Site Looking Northwest

(3). Subject Site Looking Northeast

(4). Concrete Slab and Natural Gas Line

Picture (5). Water Well at the Site

Picture (6). Broken Tip of an Underground Pipe at the Site

Picture (7). Adjoining Farm Land to the North

Picture (8). Adjoining Farm Land and Dirt Road to the South

Picture (9). Adjoining Farm Land and Dirt Road to the East

Picture (10). Residential Dwelling to the Northeast across 10th Street/Reservoir Avenue

Appendix F

Qualifications of Environmental Professional

MOHSEN MEHRAN, Ph. D.

Principal Hydrologist

FIELDS OF EXPERTISE

Dr. Mehran's academic background and consulting experience in the last 35 years focus on hydrogeology and ground water quality. He has taught advanced courses in ground water hydrology, contaminant transport in fractured/porous media, and soil mechanics. He has been the principal investigator and manager for Remedial Investigation/Feasibility Studies; RCRA Facility Investigations, risk assessment; and design, installation, and operation of remediation systems. He has developed and applied numerous computer models to solve ground water flow problems and investigate the migration of various chemical compounds in fractured/porous media - e.g., petroleum compounds, hexavalent chromium and other metals, chlorinated solvents, herbicides, volatile organic compounds, and numerous other chemicals. He has applied this technical specialty to site characterization, evaluation of remedial alternatives, development of cleanup criteria, and allocation of cost among potentially-responsible parties for the aerospace, petroleum, electronics, chemical, wood preserving, communications, and other industries.

Dr. Mehran is active professionally by publishing and has been a reviewer for the *Journal of Ground Water* and *Journal of Ground Water Monitoring and Remediation*. Dr. Mehran provides legal support and expert witness testimony for cases related to causes of contamination, identification of multiple sources of contamination, and cost recovery/allocation. He has published more than 50 technical papers.

EDUCATION

Ph.D., 1971, Civil Engineering University of California, Davis

M.S., 1966, Soil Physics University of California, Davis

B.S., 1962, Agricultural Engineering, Tehran University

PROFESSIONAL REGISTRATIONS

Certified Ground Water Professional No. 189

Qualified Environmental Professional - Institute of Professional Environmental Practice

EMPLOYMENT HISTORY

2004 to present	Principal Hydrologist, Rubicon Engineering Corporation
2000 to 2004	Chief Executive Officer, England Geosystem, Inc.
1986 to 2000	Principal-in-Charge and Project Manager, Geosystem Consultants, Inc., Irvine, California
1981 to 1985	Project Manager/Technical Specialist – Hydrogeology, IT Corporation Irvine, California

1979 to 1981	Staff Scientist, Lawrence Berkeley Laboratory, Berkeley, California
1977 to 1979	Visiting Associate Professor, University of California, Davis, California
1974 to 1977	Associate Professor, Civil Engineering Department, Tehran Polytechnique, Iran
1971 to 1974	Post-Graduate Scientist, University of California, Davis, California

SELECT PROJECT EXPERIENCE

- Project manager and principal investigator of RCRA Facility Investigation/Corrective Measures Study at two chemical distribution facilities in Los Angeles, California since 1987 with the oversight of California Department of Toxic Substances Control (DTSC); Responsible for negotiation with DTSC in drafting a Corrective Action Consent Agreement.

- Technical expert for the allocation of responsibility and costs of remediation related to volatile organic compounds and hexavalent chromium in ground water – Burbank versus Glendale Operating Units (OUs) and the Potentially Responsible Parties (PRPs) within the Glendale North and Glendale South. This included assessment of the contribution by Burbank OU to contamination in Glendale OUs and by various PRPs within the Glendale OUs using ground water and contaminant transport modeling.

- Principal investigator and expert witness in more than 15 environmental cases representing the private sector and government agencies on behalf of plaintiffs and defendants.

- Principal investigator and project manager in evaluation and remediation of sites contaminated with tetrachloroethene (PCE) originated from dry cleaning operations.

- Principal investigator for remediation of soil and ground water impacted by TCE and methylene chloride at an aerospace facility in Long Beach, California.

- Principal investigator for Focused Feasibility Study for remediation of chlorinated hydrocarbons in soil and ground water at a manufacturing facility in Los Angeles.

- Conducted hydrologic investigations and prepared site-specific numeric models of transport of contaminants (chlorinated solvents, petroleum hydrocarbons, semi-volatile organic compounds, and metals) in soils and ground water.

- Responsible for conducting evaluations of cleanup alternatives, negotiating with state and federal agencies, preparing Remedial Action Plans, and conducting remedial actions at sites throughout California.

- Designed and evaluated extraction/treatment system to remediate dissolved TCE migration in a fractured sandstone formation; assessed remedial action effectiveness.

- Investigated hexavalent chromium contamination in soil and ground water at Superfund sites, performed geochemical studies to assess sources of hexavalent chromium and its migration

behavior, conducted feasibility studies to select the most appropriate remedial technology, and performed pilot tests to evaluate the feasibility of in situ remediation technologies.

– Evaluated migration pathways of TCE, 1,2-dichloroethene, and carbon tetrachloride in fractured limestone formation and developed containment and remedial technologies.

– Demonstrated natural attenuation of chlorinated hydrocarbons in drinking water aquifer to support site closure.

– Evaluated effectiveness of ground water remediation program to reduce the concentrations of methylene chloride, TCE, and tetrachloroethene in a multilayered aquifer system

– Modeled ground water flow and ethylene dibromide (EDB) transport to evaluate the effectiveness of an extraction/injection program at a chemical manufacturing facility and prepared technical reports in accordance with the requirements of the California Regional Water Quality Control Board.

– Conducted a soil and ground water investigation to delineate the extent of hexavalent chromium contamination in Ukiah, California – including site characterization, geochemical evaluation of leaching of chromium, hydrogeologic studies, Remedial Action Plan preparation, and in-situ remediation assessment.

– Performance of a comprehensive RI/FS at a site in Central Valley, California. Hexavalent chromium, trivalent chromium, and arsenic were the principal chemicals of concern. Activities involved over 50 ground water monitoring wells; drilling and sampling of more than 120 borings; evaluation of in-situ remediation technologies and feasibility study.

– Taught courses in advanced ground water hydrology, contaminant transport modeling, and soil mechanics. Continued research in transport phenomena in fractured/porous media. Dr. Mehran has supervised numerous graduate students on various research topics.

– Responsible for fundamental formulation and computer model development of the simultaneous transport of water, contaminant, and heat in fractured/porous media and evaluation of the hydrogeologic consequences of dewatering deep formations. Utilizing numerical models developed the capability of simulating the long-term effects of dewatering and reinvasion of water by considering saturated-unsaturated flow in fractured shale formations. A practical application of this research relates to the migration of dissolved organic constituents and radionuclides in fractured formations.

– Conducted research on transport and transformation of various nitrogen species in soils under saturated and unsaturated flow conditions, applied to nitrate pollution of ground water. This work was supported by the National Science Foundation. The computer models developed by Dr. Mehran have been successfully applied to the behavior of nitrogen and other chemical compounds in actual field problems.

PROFESSIONAL AFFILIATIONS

American Geophysical Union
American Chemical Society
Association of Ground Water Scientists and Engineers
National Ground Water Association
Member of the Research Advisory Board of the National Water Research Institute

PUBLICATIONS

Mehran, M., "Influence of Soil Moisture Suction on Soil Tensile and Compressive Strength," M.S. Thesis, University of California, Davis, 1966.

Mehran, M., "Development of Air Force Erosion Control Manual," report to Water Resources Engineers, Inc., Walnut Creek, California, 1969.

Mehran, M., "Electrical Dispersion and Electrokinetic Phenomena in Clays," Ph.D. Dissertation, University of California, 1971.

Mehran, M., and K.K. Tanji, "Chemical Transport in Flooded Rice Fields," paper presented before the Environmental Division of American Society of Agronomy Meeting, November 1, 1972, Miami, Florida.

Mehran, M., K.K. Tanji, J.W. Biggar, and D.W. Henderson, "Chemical Transport under Different Water Management Systems," Proceedings of 14th Rice Tech., Working Group, p. 72, 1972.

Mehran, M., and K.K. Tanji, "Computer Modeling of Nitrogen Transformations in Soils," Journal of Environmental Quality 3(4):391-396, 1974.

Tanji, K.K., M. Mehran, J.W. Biggar, and D.W. Henderson, "Flood and Seepage Water Sampling Techniques in Rice Fields under Different Water Management Systems," Soil Science Society of America, Proceedings 37:483-485, 1973.

Tanji, K.K., M. Mehran, J.W. Biggar, and D.W. Henderson, "Dye Tracer Movement in Rice Strip Plots," California Agriculture 27(7):10-13, 1973.

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Tanji, K.K., M. Mehran, J.W. Biggar, and D.R. Nielsen, "Computer Modeling of Nitrogen Transformation and Transport in Cropped Irrigated Lands," Annual Report to the National Science Foundation for Grant No. GI34733X, July 1973.

Tanji, K.K., J.W. Biggar, M. Mehran, and D.W. Henderson, "Herbicide Persistence and Movement Studies with Molinate in Rice Irrigation Management," California Agriculture 28(5):10-12, 1974.

Tanji, K.K., T.K. Kam, M. Mehran, J.W. Biggar, and D.R. Nielsen, "Computer Modeling of Nitrogen Transformation and Transport in Cropped Irrigated Lands," Annual Report to the National Science Foundation for Grant No. GI34733X, July 1974.

Tanji, K.K., T.K. Kam, and M. Mehran, "Nitrogen Studies in Secondary Sewage Percolation Ponds," Symposium on Nitrogen Transport and Transformation, Chicago, Illinois, 1974.

Mehran, M., "Contamination of Surface and Ground Waters by Nitrogenous Compounds," Proceedings of 24th Iranian Medical Congress, Ramsar, Iran, September 1975.

Mehran, M., and K. Arulanandan, "Low Frequency Conductivity Dispersion in Clay-Water-Electrolyte Systems," Clays and Clay Minerals 25:38-48, 1977.

Tanji, K.K., F.E. Broadbent, M. Mehran, and M. Fried, "An Extended Version of a Conceptual Model for Evaluating Annual Nitrogen Leaching Losses from Croplands," Journal of Environmental Quality 8(1):114-120, 1979.

Tanji, K.K., and M. Mehran, "Nitrogen Modeling in Croplands," final report, Nitrate in Effluents from Irrigated Agriculture for National Science Foundation, Grant No. ENV 76-10283 A01, 1979.

Mehran, M., T.N. Narasimhan, and J.P. Fox, "An Investigation of Dewatering for the Modified In-situ Retorting Process, Peance Basin, Colorado," Lawrence Berkeley Laboratory Report No. LBL-11819, 1980.

Mehran, M., K.K. Tanji, and I.K. Iskandar, "Compartmental Modeling for Prediction of Nitrate Leaching Losses," Chapter 16 in: Modeling Wastewater Renovation by Land Treatment. I.K. Iskandar (ed.), John Wiley and Sons, 1981.

Gupta, S.K., K.K. Tanji, and M. Mehran, "Field Simulation of Water and Nitrogen Transport in Soil-Water-Plant Systems. Part I: Water Flow."

Mehran, M., K.K. Tanji, and S.K. Gupta, "Field Simulation of Water and Nitrogen Transport in Soil-Water-Plant Systems. Part II: Nitrogen Transport and Transformations."

Tanji, K.K., M. Mehran, and S.K. Gupta, "Water and Nitrogen Fluxes in the Root Zone of Irrigated Maize. Chapter 4.1: Description of Models," in: Simulation of Nitrogen Behavior in Soil Plant Systems. M.J. Frissel and J.A. Van Veen (ed.), Center for Agricultural Publishing and Documentation, Wageningen, The Netherlands, 1981.

Mehran, M., T.N. Narasimhan, and J.P. Fox, "Hydrogeologic Consequences of Modified In-situ Retorting Process, Piceance Creek Basin, Colorado," 14th Oil Shale Symposium, Golden Colorado, April 1981.

Noorishad, J., M. Mehran, and T.N. Narasimhan, "On the Formulation of Saturated-Unsaturated Fluid Flow in Deformable Porous Media," Advances in Water Resources, Vol. 5, 61-62, 1982.

Noorishad, J., and M. Mehran, "An Upstream Finite Element Method for Solution of Transient Transport Equation in Fractured Porous Media," Water Resources Research, Vol. 18, No. 3, 588-596, 1982.

Mehran, M., J. Noorishad, and K.K. Tanji, "Numerical Simulation of the Effect of Soil Nitrogen Transport and Transformation on Ground Water Contamination, "Proceeding of the 16th Congress of The International Association of Hydrogeologists, Prague, Czechoslovakia, September 1982.

Selim, H.M., M. Mehran, K.K. Tanji, and I.K. Iskandar, "Mathematical Simulation of Nitrogen Interactions in Soils," Mathematics and Computers in Simulation, Vol. 25, No. 3, 241-248, 1983.

Mehran, M., M. J. Nimmons, and E.B. Sirota, "Delineation of Underground Hydrocarbon Leaks by Organic Carbon Detection," Proceedings of National Conference on Management of Uncontrolled Hazardous Waste Sites, Washington, D.C., 94-97, October 31, 1983.

Mehran, M., J. Noorishad, and K.K. Tanji, "A Numerical Technique for Simulating the Effects of Soil Nitrogen Transport and Transformations on Ground Water Contamination," Journal of Environmental Geology, Vol. 5, No. 4, 213-218, 1984.

Mehran, M., and R.L. Olsen, "Adsorption Characteristics of Trichloroethylene (TCE) in Soil-Water Systems," paper presented at the Spring Meeting of the American Geophysical Union, Cincinnati, Ohio, May 1984.

Mehran, M., and B.M. Rector, "Ground Water Treatment and Contaminant Migration Control," paper presented at a meeting of the Chemical Manufacturers Association, Atlanta, Georgia, September 1984.

Mehran, M., and R.L. Pellissier, "Geochemical Characteristics of Ethylene Dibromide," paper presented at the International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, December 1984.

Mehran, M., "University-Industry Round-Table: Research Needs in Hazardous Waste Management," presented before the faculties of Civil Engineering and Environmental Engineering, University of Southern California, October 9, 1985.

Mehran, M., "Modeling of Volatile Organic Compounds in Ground Water Systems," paper presented at the University of Southern California, November 8, 1985.

Parmele, C.S., R.D. Allen, and M. Mehran, "Steam-Regenerated Activated Carbon -- An Emission-Free Cost-Effective Ground Water Treatment Process," presented at American Institute of Chemical Engineers Annual Meeting, Chicago, Illinois, November 13, 1985.

Parmele, C.S., T.L. Schomer, and M. Mehran, "Industrial Prospective on In-Situ Methodology," paper presented at Southeastern Symposium on In-Situ Treatment and Immobilization of Hazardous and Radioactive Waste, Knoxville, Tennessee, June 8-10, 1986.

Mehran, M., R.L. Olsen, and B.M. Rector, "Distribution Coefficient of Trichloroethylene in Soil Water Systems," Ground Water, Volume 25, No. 3,275-282, 1987.

Mehran, M., "Ground Water/Contaminant Transport Models -- Uses and Misuse," presented to the California Environmental Health Association, October 28, 1987.

Mehran, M., "Statistical Techniques for Waste Environmental Sampling," presented at a meeting of the American Statistical Association, New Orleans, Louisiana, August 1988.

Mehran, M., "Role of Geochemistry of Chromium on Soil and Ground Water Remediation at Wood Preserving Facilities," presented at a meeting of the American Wood Preservers Association, Seattle, Washington, September 1988.

Azari, A., M.H. Alemi, and M. Mehran, "Estimating Mean of Groundwater Trace Constituents and Toxic Compounds for Censored Data," presented at a meeting of the American Society of Agronomy, Anaheim, California, November 27 to December 2, 1988.

Mehran, M., "Environmental Considerations Related to Siting and Operation of Wood Preserving Facilities," presented at a meeting of the American Wood Preservers Association, Richmond, Virginia, September 12, 1989.

Mehran, M., R.L. Olsen, and R.W. Chappell, "Adsorption and Desorption Characteristics of Chlorinated Volatile Organic Compounds," presented at the Ground Water Geochemistry Conference of National Water Well Association, Kansas City, Missouri, February 21, 1990.

Mehran, M., "Evaluation of Hexavalent Chromium Migration for Ground Water Remediation," presented at the 84th Annual Meeting & Exhibition of Air & Waste Management Association, Vancouver, British Columbia, June 16 - 21, 1991.

Mehran, M., "Fate and Transport of Ethylene Dibromide in Soil and Ground Water Systems," presented at the 85th Annual Meeting & Exhibition of Air & Waste Management Association, Kansas City, Missouri, June 21 - 26, 1992.

Mehran, M., "Design of Extraction/Injection Systems Using Analytic Models," presented at the 85th Annual Meeting & Exhibition of Air & Waste Management Association, Kansas City, Missouri, June 21 - 26, 1992.

Mehran, M., "Soil and Ground Water Remediation by Vapor Extraction and Air Sparging," American Water Resources Association, Chicago, Illinois, November 1994.

Mehran, M., "Combined Effects of Water Table Drawdown, Vapor Extraction, and Air Sparging on Soil and Ground Water Remediation," Emerging Technologies in Hazardous Waste Management VII, American Chemical Society, Atlanta, Georgia, September 1995.

Mehran, M., "Soil and Ground Water Remediation by Vapor Extraction and Air Sparging," International Chemical Congress, Honolulu, Hawaii, December 1995.

Mehran, M., "Impacts of Pollutants on Ground Water Resources: Trends and Research Needs," International Conference on Industrial Pollution and Control Technologies, November 17 - 19, 1997, Hyderabad, India.

Mehran, M., "Natural Attenuation of Methylene Chloride in Ground Water," The 5th International Symposium on In-Situ and On-Site Bioremediation, April 1999, San Diego, California.

Mohsen, M., D. C. Hogshead, and R. L. Herndon, 2007, “Modeling Contaminant Sources Prior to Site Selection of Ground Water Recharge Basins, “ Paper published by Groundwater Resource association of California.

Mehran, M. , D.C. Hogshead, S. Afshari, S. Zachary, P. Sones, J. Scott, and N. Garson, 2008, “Application of Modeling for Design and Optimization of Hydraulic Containment and In-Situ Chemical Oxidation”, Paper accepted for presentation and publication at Battelle, May 2008.

Mehran, M. D.C. Hogshead, Brad Rogers, 2008, “Prevention of Off-Site VOC Vapor Intrusion through On-Site Soil Vapor Extraction”, Paper accepted for presentation and publication at Battelle, May 2008.

(Revised April 2008)

Peter Lee
Staff Engineer

FIELD OF EXPERTISE

Mr. Peter Lee has performed more than 200 Phase I Environmental Site Assessments in last 4 years in California. The properties he has assessed include primarily commercial and industrial facilities. He has performed these assessments in accordance with the current ASTM standards and practices. Mr. Lee has also conducted site characterization including soil and vapor sampling, well installation, ground water monitoring, and installation and operation/maintenance of the remediation systems.

EDUCATION

CALIFORNIA STATE UNIVERSITY AT POMONA
Bachelor of Science, Electrical Engineering, 2004

EMPLOYMENT HISTORY

Rubicon Engineering Corporation, Irvine, CA: 2008 to 2009
Staff Engineer

- Phase I Environmental Site Assessments
- EDR searches
- File reviews at the regulatory agencies
- Soil and ground water sampling
- Drilling and well installation
- Operation ad maintenance

Western Environmental Engineer's Co., Santa Ana, CA : 2005 – 2008
Project Engineer

PHASE I ENVIRONMENTAL SITE ASSESSMENTS

- Performed over 200 Phase I Environmental Site Assessments for numerous commercial and industrial properties, including assessments conducted in adherence to ASTM Standard Practice E1527-05 (AAI).
- Provided Assessments for financial institutions, real estate developers, property owners and managers located in western states.
- Assessments included on and off-site inspection, regulatory file review and report preparation with recommendations.

RUBICON
Engineering Corporation

PHASE II ENVIRONMENTAL SITE ASSESSMENTS

- Involved in numerous intrusive subsurface impact assessments of various commercial and industrial facilities. Work included scheduling and organizing work activities, obtaining permits, and performing public relation duties.
- Experience with performing Phase II Environmental Site Assessments, supervising soil borings, installing groundwater monitoring wells, groundwater and soil sampling, soil profiling, and report writing.

PHASE III REMEDIATION / SOIL AND GROUNDWATER MONITORING

- Acquired an experience of maintaining and operating vapor-extraction system (**SVE & DPE**), which utilizes an Engine or thermal oxidizer to suck-out, and combust hydrocarbon vapors from underground soil.
- Performed quarterly groundwater monitoring and sampling including the following: water level monitoring, tide measurement, free product testing and removal, field measurements (pH, dissolved oxygen, turbidity, conductivity, etc.), PID measurement, air sampling, pilot testing, groundwater sample collection and laboratory analysis of samples.
- Additional work included scheduling and organizing remediation projects; and preparing reports.

AMIR MATIN, PG, CEG, CHG, MBA

Program Manager, Principal Hydrogeologist

FIELDS OF EXPERTISE

Mr. Matin has over 30 years of experience in the technical and managerial aspects of geotechnical and environmental engineering, hydrogeology, management of toxic chemicals, regulatory processes, environmental assessment, technology selection, remedial action, and site closure projects. He has well-developed skills in project and program management, scheduling and cost control, having had responsibility for leading multi-disciplinary teams of environmental professionals on demanding, complex, and fast-paced multi-million-dollar projects. These programs have honed his skills in planning, data analysis and interpretation, agency negotiations, and customer-focused sales and service delivery.

He has extensive experience in all aspects of the remediation process, including remedial investigation/feasibility studies (RI/FS), and the design, installation, and operation of soil and groundwater remediation systems. He is highly experienced in dealing with Federal and State of California environmental laws and regulations, and in interacting with Federal and California agencies. His broad expertise comes from over 30 years of personal experience ranging from task management to office management as well as leading multi-disciplinary technical groups of environmental, engineering, and construction professionals in the past 22 years. Mr. Matin's customers benefit from his ability to adapt to changing conditions using creative solutions that help achieve client goals cost-effectively and on-time.

EDUCATION

M.B.A., Global Management, 1999, University of Phoenix, Sacramento, California
M.S., Engineering Geology, 1982, California State University, Los Angeles, California
B.S., Geology, 1976, Central Michigan University, Mt. Pleasant, Michigan

REGISTRATIONS

Registered/Professional Geologist (PG), CA # 4190, 1986
Certified Engineering Geologist (CEG), CA #1396, 1988
Certified Hydrogeologist (CHg), CA #137, 1995

CERTIFICATIONS

Certified Engineering Geologist, California
Certified Hydrogeologist, California
General Engineering Contractor License, "A" Class, California
Hazardous Substances Removal and Remedial Action License, "Haz" Class, California

EMPLOYMENT HISTORY

Rubicon Engineering Corporation 20 Corporate Park, Suite 285 Irvine, California Vice President/Program Manager Principal Hydrogeologist	April 2008 to Present
Cape, Inc. Irvine and Sacramento, CA Regional Manager Senior Program Manager	2005 to 2008
URS, Inc. Sacramento, CA Department Manager Senior Program Manager Marketing Manager	2002 to 2005
Jacobs Engineering Group Inc. Pasadena and Sacramento, CA Department Manager/Deputy Office Manager Program Manager/Manager of Projects Office Manager/Technical Resources Manager	1991 to 2002
CET Environmental Services/TG Environmental, Inc. Tustin, Anaheim and Long Beach, CA Senior Vice President/Program Manager Vice President/General Manager Principal Hydrogeologist	1988 - 1991
J.H. Kleinfelder and Associates Compton and Artesia, CA Engineering Manager/Operations Manager Senior Project Manager Senior Hydrogeologist/ Engineering geologist	1986 - 1988
Leroy Crandall and Associates/Law Environmental Los Angeles and Burbank, CA Hydrogeologist Engineering geologist Project Manager	1979 - 1986
AMCS (Family Business) Monterey Park, CA Hydrogeologist	1977 - 1979

CAREER DETAILS

Since April 2008, Mr. Matin has been the director of Federal Programs for Rubicon Engineering Corporation in charge of development and execution of all federal projects. His focus is to grow and continually improve the services to the all important Federal customers. He advocates growing business by understanding and responding to customer needs. His main responsibilities are: 1) Business Development, 2) Proposal Management and 3) Program Management. As the program manager for the Navy, Air Force and Army Corps of Engineers, he serves as the single point of contact for coordination with the clients. He is responsible for overall management of the contracts including cost, schedule and technical quality.

At CAPE Corporation from 2006 to 2008, Mr. Matin responsibilities included:

- Mr. Matin was the Regional Manager for CAPE Corporation's Western Region overseeing the day to day operations activities of two offices – Irvine and Sacramento, California. He was responsible for the growth of the western region for CAPE and oversees several large Department of Defense projects, including Vandenberg Air Force Base (AFB), March Air Reserve Base and Tustin Naval Air Station (NAS) and Ventura County NAS, Point Mugu in southern California as well as Camp Parks and Fort Mason bases in northern California for the Army Corps of Engineers, Sacramento District. He also oversaw the development and implementation of quality programs in the western region.

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At URS Corporation from 2002 to 2006, Mr. Matin responsibilities included:

- From 2004 to 2006, Mr. Matin was the lead Senior Program/Marketing Manager for URS Corporation's Air Force Market Sector, the company's most important Federal customers. To improve his sales and customer management skills, Mr. Matin took several sales and marketing training opportunities (e.g., Proposing to Win, Strategic Selling, Presentation Skills). Subsequently, he incorporated key concepts into Best Practices for the company's large programs (e.g., establishment of a formal process to gather and act on customer feedback, Client Expectation and Client Feedback Surveys System). Mr. Matin continued to lead, as the program manager, all of URS' projects efforts at Travis Air Force Base (AFB), and as the quality manager he oversees the quality assurance program at McClellan AFB as well as managing several projects for Cal EPA's DTSC. He also provides strategic planning and analysis, technical review and support to other Air Force, Army, state, and private sector programs throughout the western US.

- From 2002 to 2004, Mr. Matin was the Remedial System Services Department Manager for URS, Inc. His department consisted of three groups: Monitoring and Reporting; Operation and Maintenance; and Data Management and Computer Modeling. Mr. Matin's responsibilities included managing day to day operation of these groups, which consist of approximately 40 environmental scientists, chemists, engineers, geologists, hydrogeologist, geophysicists, and data manager professionals working mainly on large, complex projects at the U. S. Army Corps of Engineers and Air Force bases in California. His other responsibilities included leading URS' Sacramento Office Air Force marketing efforts as well as program and quality management at the following facilities:

- **Travis AFB, Fairfield, CA.** Mr. Matin was the Program Manager for a complex environmental remediation program, including operations and maintenance (O&M) of three groundwater and three SVE treatment systems. The program includes basewide groundwater sampling and analysis of over 500 monitoring wells and semi-annual evaluation of system performance and optimization. The program also included community relation support, Remedial Design/Remedial Action, and risk assessment, including indoor air and ecological.
- **Army Corps of Engineers' HTRW Contract, CA**. Mr. Matin was the Program Manager for the implementation of all of the URS projects under this contract from 2002 to 2005. This was a multi-year and multi-million dollar program and included the following projects: Fort Irwin, Tooele Army Depot, Sacramento Army Depot, TEAD groundwater Alternative Measures Study and Hawthorne Army Depot.
- **McClellan AFB, Sacramento, CA**. Mr. Matin was the Quality Manger of all URS' assessment and remediation programs as well as the manager who oversees a large and complex O&M and LTM activities at the base, which ranked as the number one Superfund facility in the U.S. Air Force. He was the project manager for the implementation of a comprehensive PA/SI and was also the main author for a comprehensive Flow and Fate and Transport computer model, which was used for the development of the much contested Record of Decision (ROD) and groundwater system optimization.
- **Wake Island Airfield, Wake Atoll**. Mr. Matin was the technical program Manager for the implementation of this large assessment and cleanup program of the Wake Island. The work also included Removal Actions and Mr. Matin oversaw the implementation numerous Engineering Evaluations/Cost Analyses (EE/CA).

At *Jacobs Engineering Group Inc.*, Mr. Matin's accomplishments include the following:

- From December 2001 to October 2002, Mr. Matin was the office manager of the Jacobs' Sacramento Office; where he managed the daily operations of about 40 employees. He was also the Program Manager of several complex multi-disciplinary remediation projects at various Department of Energy and Department of Defense sites. These sites included Lawrence Livermore National Laboratory (LLNL), Vandenberg and McClellan Air Force Bases and at Vernal, Utah – United States Army Corps of Engineers' site. He was an integral part of the proposal development and review team for DOD nationwide contracts (e.g., AFCEE 3P-AE, 4P and ENRAC as well as Navy Southwest Div).

- From January 1998 to February 2002, Mr. Matin was the Deputy Office Manager and the program manager for all of the Jacobs' projects at Castle Air Force Base under the IRP and $ 150 million full-service Remedial Action Contract (RAC) with the Air Force Center for Environmental Excellence (AFCEE). As the program manager, Mr. Matin was responsible for planning, proposals, budgets, staffing, cost and schedule performance, technical and contractual performance and compliance, and management coordination, including implementation of the Jacobs Quality

Advancement Process. The implementation of project tasks requires the coordination of Jacobs's personnel as well as subcontracted resources such as for construction, remediation and disposal services, analytical services, drilling and other field support services, as well as supplies and equipment in accordance with federal contract requirements. As the result of his outstanding performance, Jacobs has received 99.3, 100, 100 and 100 percents award fees from AFCEE for the last four years and Mr. Matin has received commendation letters from AFCEE and BRAC Environmental Coordinator at Castle AFB (e.g., one entitled A Delightful Experience).

- From February 1994 to January1998, Mr. Matin was the lead Project Manager, and then Program Manager, for all projects at McClellan AFB under the Air Force IRP, McClellan ID/IQ, and AFCEE RI/FS contracts, totaling $75 million. His responsibilities included managing large (178 sites) RI/FS and removal action projects at the site ranked as the number one Superfund facility in the U.S. Air Force. These projects use unique approaches to site characterization and remediation (e.g., utilization of mobile laboratory and borehole conversion criteria for real-time decisions on further characterization or installation of remedial action equipment) because of significant environmental problems at the base, including degraded groundwater that has migrated off base. He was responsible for the technical direction and quality of documents including sampling and analysis plans, quality assurance plans, RI/FS and engineering evaluation/cost analyses. He was also responsible for implementing field programs and for developing strategies for site prioritization and accelerated remediation. He also has provided technical input to several remedial action projects at other Air Force Bases in soil vapor extraction, bioventing, and air stripper/vapor phase carbon pump and treat systems. Mr. Matin has received numerous commendations from the Air Force for conducting excellent field programs and preparing innovative reports that received very few comments from the agencies. He also provided technical input to several remedial action projects at other CERCLA sites in SVE, bioventing, air/liquid strippers and carbon/oxidation treatment systems.

- During 1992 and 1993, he was the lead project manager for implementation of a major ($25 million) RI/FS and removal action programs at Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms. He successfully managed the first implementation of an innovative, proactive, fast-track program called PEECP (Pilot Expedited Environmental Cleanup Program), which was established by Congress in 1992 to streamline the cleanup of contaminants on military installations using innovative, cost-effective methods. Mr. Matin reduced the estimated project completion time several years by overlapping investigative steps and incorporating a real-time decision-making process in the field to evaluate cleanup options, select appropriate remedies, and implement the latest cleanup technologies. On many sites, monitoring and remediation equipment was installed during the site investigation, which resulted in $9 million in cost savings. Through ongoing communication with the regulatory agencies, Mr. Matin was instrumental in implementing a flexible work plan that complied with all environmental regulations. The program included extensive public participation. As a result of Mr. Matin's efforts, Jacobs was commended for the outstanding accomplishments achieved during the MCAGCC cleanup project, with the highest award fee rating (100%) secured since the inception of the Navy CLEAN Program. MCAGCC, in turn, received the prestigious Environmental Restoration Award from the Secretary of

Defense as well as the Environmental Cleanup Award from the Secretary of the Navy. Mr. Matin also received a Letter of Appreciation from General Sutton, U. S. Marine Corps Commanding General.

- During 1991 and 1992, he managed the RI/FS Department of the Pasadena Environmental Programs. His department consisted of seven groups: Geology, Geotechnical and Engineering Geology, Civil and Environmental Engineering, Chemistry, Air Quality and Risk Assessment, Planning and Regulatory Compliance and Field Services. These groups' tasks included site assessment, RI/FS studies, underground storage tank management and compliance activities, air toxics, community relations, RCRA permitting and compliance, and remediation. Mr. Matin's responsibilities included managing a diverse group of approximately 80 environmental scientists, chemists, engineers, geologists, hydrogeologists, geophysicists, and risk assessment professionals working mainly on large, complex projects at Navy and Air Force bases in California. He was one of the few lead technical reviewers on the Comprehensive Long-Term Environmental Action Navy (CLEAN) Program, as well as on the Vandenberg, McClellan, and Edwards Air Force base projects. He also provided technical input to other major CLEAN projects such as NAS El Centro, MCLB Barstow, MCAS El Toro, NAS North Island (San Diego), MCAS Yuma, and MCAS Tustin.

At *CET Environmental Services* (formerly TG Environmental), Mr. Matin was Senior Vice President in charge of the Engineering and Remediation Services. In this capacity, he was responsible for the management and supervision of three area offices encompassing a staff of 75 environmental professionals conducting major soil and groundwater assessment and remediation programs. His accomplishments included:

- Stimulated growth by identifying the strengths and weaknesses of various departments and effectively reorganized administrative procedures to yield higher efficiency in the flow of information and reduce overhead costs
- Decreased bad debts by installing an effective collection system
- Actively pursued the attainment of new target markets in the remediation business
- Conducted senior review on all major projects and performed as specialized EPA ERCS Response Manager
- Increased technical quality, management care, technical efficiency, and computer applications
- Established strong controls in order to promote loss prevention and to effectively maintain maximum billability
- Ensured the development of technically sound, clearly written, and accurately calculated cost proposals
- Conducted quality control audits and contract approvals on all large projects
- Ensured the application of appropriate remedial action technologies across regional offices

As Vice President, *Med-Tox Associates* (a TG Environmental company), Mr. Matin successfully established a new division called GEO-TOX, performing environmental assessment and remediation programs. Mr. Matin:

- Developed a reputable company image through public relations and high-quality product and superior performance of projects
- Effectively executed administrative policies, which ensured loss prevention and higher profitability. The newly established division by Mr. Matin reached the highest level of profit margins within the company in less than one year
- Provided hands-on technical training to personnel in the field and office. The goal was to continually adhere to quality from proposal to project completion, which resulted in repeat business from existing clients and new businesses from outreach endeavors
- Reduced costs and improved efficiency by expanding computer applications in the field and office
- Decreased bad debts by installing a timely and effective collection system, providing strong contract administration and proposal development, and maintaining stringent quality assurance and control standards throughout project development
- As project director, effectively managed large and complex projects and gave technical input to all other projects
- Initiated innovative marketing approaches in an effort to be at the forefront of the industry with a name that was easily recognized and trusted. Marketing efforts included development of a sophisticated database with over 12,000 potential clients complete with detailed information, such as type of services they require

At *J.H. Kleinfelder and Associates*, Mr. Matin held two positions: As Engineering Manager/Operations Manager of the Southern California office, he effectively managed a staff of 26 environmental professionals conducting major soil and groundwater assessment and remediation programs. He also:

- Devised new systems to execute company goals such as reducing turnaround times and increasing collections
- Increased sales by systematically upgrading the production of the office through recognizing and eliminating problem areas and emphasizing quality performance
- Scheduled daily operations and monitored the staff's performance
- Purchased, inventoried, and controlled project equipment
- Devised and implemented time-saving procedures including staff scheduling and office capacity evaluation which resulted in identifying problem areas in projects and personnel
- Reduced cost through computerizing the office and increasing computer applications

As Senior Hydrogeologist/Project Manager, Mr. Matin was responsible for managing, planning, coordinating, and directing large projects as well as reviewing environmental and hydrogeologic studies for all projects, including underground storage tank investigations, environmental audits and assessments, landfill investigations, aquifer testing and groundwater contaminant modeling, and soil and groundwater remediation

programs. He also established a technical library and a mobile laboratory for the office, wrote effective proposals, and participated in marketing presentations. Mr. Matin was appointed to the company's Technical Advisory Committee, which was responsible for quality improvements across all offices.

At *Leroy Crandall and Associates/Law Environmental,* as a hydrogeologist/project manager, Mr. Matin supervised and conducted many diverse environmental assessment, remediation, and geotechnical projects involving landfills, high-rise structures, surface impoundments, large retail shopping centers, hospitals, chemical and industrial manufacturing companies, transportation companies, utilities, and government agencies. Mr. Matin conducted the following projects/tasks at Leroy Crandall and Associates:

- Long-term groundwater monitoring and sampling as well as operation and maintenance of pump-and-treat systems at several major aquifer restorations programs in California and Nevada for over six years continuously, including one of the very first Superfund sites. Duties also included design and installation of dewatering wells, water resource evaluation and development (basin, safe yield, and well field and productivity studies), field permeability, and water quality investigations.
- Field mapping, slope stability studies, geologic and seismic site investigations, landslide and fault investigations, soil boring and groundwater monitoring well installation and sampling, aquifer testing and analysis, groundwater flow and contaminant transport modeling, and soil and groundwater remediation
- Supervising subsurface geophysical studies using seismic refraction and reflection methods in hazardous waste landfills, power plants, and surface impoundment sites and testing the effectiveness of subsurface barriers in restraining migration of hazardous liquid

At AMCS, as a hydrogeologist, Amir worked on a project to determine the effects of water quality and soil properties on crop yield. One of the objective of the project was to ascertain the crop yield reduction as a function of water quality (i.e., increase in total dissolve solids). Amir also worked on basin study and well field projects with the objective of assessing and increasing ground water yield from wells and ganats.

APPENDIX E

Certificate of Service and Mailing List

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We, Anthony Padilla, of Environmental Science Associates, and Stan Williams, of Phoenix1 Printing, certify that we have on this date caused the following:

Publication of the Draft EIR for SCE's Application to the California Public Utilities Commission pursuant to General Order (GO) 131-D to construct and operate the Lakeview Substation Project. The Draft EIR is to be served by United Stated Postal Service (USPS) mail to owners of property adjacent to Project components. Copies of the Draft EIR for Responsible, Trustee, and other local, State and federal public agencies whose jurisdiction falls within the Project area; planning departments of Riverside County and the City of Moreno are to be delivered via USPS certified mail or an overnight delivery service as documented in the comprehensive mailing list included in Appendix E of the Draft EIR.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on January 11, 2012 in San Francisco and Hayward, California.

John A. Hart

Stan Williams

MASTER MAILING LIST:
AGENCIES, ORGANIZATIONS AND INDIVIDUALS
SENT A HARD COPY OF DRAFT EIR VIA OVERNIGHT DELIVERY SERVICE

AGENCY/ORGANIZATION/ INDIVIDUAL	FIRST NAME	LAST NAME	STREET	CITY	STATE	ZIP CODE
LEAD AGENCY/APPLICANT						
Project Manager, California Public Utilities Commission	Michael	Rosauer	505 Van Ness Avenue, Energy Division, Room 4A	San Francisco	CA	94102
Project Manager , Southern California Edison Company	Ryan	Stevenson	2244 Walnut Grove Avenue Quad 3D, 388K	Rosemead	CA	91770
LOCAL AND STATE AGENCIES						
County of Riverside	Chantell	Griffin	4080 Lemon Street, 9th Floor	Riverside	CA	92501
County of Riverside	Ron	Goldman	4080 Lemon Street, 9th Floor	Riverside	CA	92501
County of Riverside	Marion	Ashley	4080 Lemon Street, 5th Floor	Riverside	CA	92501
County of Riverside, Lakeview MAC Members	Marion	Ashley	4080 Lemon Street, 5th Floor	Riverside	CA	92501
Riverside County BIA	Tommy	Thompson	3891 11th Street	Riverside	CA	92501
County of Riverside EDA	Brenda	Salas	PO Box 1180	Riverside	CA	92501
Riverside County Fire Department	Ben	Johnson	210 West San Jacinto Avenue	Perris	CA	92570
Riverside County Flood Control And Water Conservation District	Edwin	Quinonez	1995 Market Street	Riverside	CA	92501
California Energy Commission	Melissa	Jones	1516 Ninth Street	Sacramento	CA	95814-5512
California Public Utilities Commission	Karen	Miller	505 Van Ness Avenue	San Francisco	CA	94102
California Public Utilities Commission	Julie	Fitch	505 Van Ness Avenue	San Francisco	CA	94102
California Department of Transportation	Randell	Iwasaki	PO Box 942873	Sacramento	CA	94273-0001
Department of Health Services	Sandra	Shewry	1501 Capitol Ave., Suite 6001	Sacramento	CA	94234-7320
Resources Agency	Mike	Chrisman	1416 Ninth Street, Suite 1311	Sacramento	CA	95814
Department of Fish and Game Headquarters	Donald	Koch	1416 Ninth Street	Sacramento	CA	95814
State Water Resources Control Board	Dorothy	Rice	1001 “I” Street	Sacramento	CA	95814
California Air Resources Board Attn: Stationary Source			1001 “I” Street	Sacramento	CA	95812
California Department of Transportation, Division of Aeronautics	Gary	Cathey	PO Box 942874	Sacramento	CA	94274-0001
California Regional Water Quality Control Board, Santa Ana Office	Gerard	Thibeault	3737 Main Street, Suite 500	Riverside	CA	92501-3339
California Department of Transportation, District 8	Ray	Wolfe	464 West 4th Street	San Bernardino	CA	92401
California Department of Transportation	Joseph	Shaer	464 W Fourth Street, 6th Floor, MS 725	San Bernardino	CA	92401
Native American Heritage Commission	Dave	Singleton	915 Capitol Mall, Room 364	Sacramento	CA	95814
State Clearinghouse			1400 10th Street	Sacramento	CA	95814

MASTER MAILING LIST: (Continued)
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AGENCY/ORGANIZATION/ INDIVIDUAL	FIRST NAME	LAST NAME	STREET	CITY	STATE	ZIP CODE
LIBRARY						
Moreno Valley Library			25480 Alessandro Boulevard	Moreno Valley	CA	92553
Perris Library			163 East San Jacinto Avenue	Perris	CA	92570
PUBLIC COMMENTERS						
Ybarrola Living Trust	Thomas	Ybarrola	1015 Alexandra Drive	San Diego	CA	92017
R.C.M.A.C.	Mike	Foley	31431 Contour Ave	Nuevo	CA	92567

MASTER MAILING LIST:
HOMEOWNERS, RESIDENTS AND ORGANIZATIONS SENT NOTICE OF AVAILABILITY
AND CD COPY OF THE DRAFT EIR VIA UNITED STATES POSTAL SERVICE

AGENCY/ORGANIZATION/ INDIVIDUAL	FIRST NAME	LAST NAME	STREET	CITY	STATE	ZIP CODE
Pechanga Band of Luiseno Mission Indians	Anna	Hoover	PO Box 2183	Temecula	CA	92593
Lewis Operating Corp.	Andy	Petitjean	PO Box 670	Upland	CA	91785-0670
Fiesta Stoneridge			11 Talcott Notch Rd	FARMINGTON	CT	6032
MWD			PO Box 54153	Los Angeles	CA	90054
	Frank	Lauda	614 26th Street	Manhattan Beach	CA	90266
Riverside County Flood Control			1995 Market Street	Riverside	CA	92501
	Frank	Lauda	12534 Harlow Ave	Riverside	CA	92503
Britschgi Real Estate INV CO			3304 S Bridge Street	Visalia	CA	93277
Riverside County Habitat Conservation Agency			4080 Lemon Street 12th	Riverside	CA	92501
Nuevo 106			1 Better World Circle 300	Temecula	CA	92590
Flocal			720 Via Zapata	Riverside	CA	92507
	William R.	Sweeney	PO Box 3369	Manhattan Beach	CA	90266
Ybarrola Living Trust A			73 Ferndale Court	Redlands	CA	92374
Riverpark Investors			1 Better World Circle 300	Temecula	CA	92590
Zulick,Ronald L Trust			PO Box 1192	Nuevo	CA	92567
	Lawerence B. & Tali M.	Manthey	30490 13th Street	Nuevo	CA	92567